

Impact to the State's Infrastructure

The June 2016 flooding caused significant damage to state infrastructure and facilities. Damaged facilities that provide essential services, such as wastewater treatment plants and educational facilities were among the most affected. Despite efforts to protect imperative infrastructure items, facilities, and other assets, damage to such property was extensive. The current calculated total impact to state infrastructure as of March 21, 2017 is \$134 million per FEMA's Public Assistance obligated project details. This amount is expected to almost triple as new projects are approved and obligated by FEMA. The State, through the Department of Homeland Security and Emergency Management, is working one-on-one with impacted local jurisdictions to ensure that all eligible projects are captured under the FEMA PA program. May of the small towns throughout West Virginia, such as Rainelle and Richwood, experienced heavy damage to their local water and wastewater systems. As a result, it will be incumbent upon the State to guide them through the FEMA PA process to have their systems restored and public services offered to the local constituency base once again.

Department of Transportation

West Virginia is a key part of the East Coast transportation network and the damage from the 2016 floods stretches more than 200 miles. Per the National Weather Service, the state's third-deadliest flooding event caused the Elkview River to crest at more than 33 feet, rising 27 feet in a single day, causing significant damage to roads, such as large mud- and rockslides, roadway erosion, culvert and bridge failures, and the closure of many routes. The West Virginia Department of Transportation (WVDOT) has reported an estimated \$56 million of damage caused to the state's highway system. A total of 1,300 different locations of state roads were washed out by flood waters and 123 bridges received damage. A total of 15 bridges were completely destroyed and 250 roads were closed due to the storms.¹³ In various communities across the state, street lights and traffic signals were damaged by floodwaters and inoperable. The West Virginia Division of Highways is working closely with FEMA and WVDHSEM to account for all damage that may be eligible for Public Assistance (PA) on project worksheets (PWs). Currently half of the \$56 million in damage has been approved for funding and obligated by FEMA.



Image 15: Route 4 near Kanawha and Clay County lines washed away during flooding

Public Schools

Flood waters damaged a total of 67 schools, with five deemed substantially damaged and approved by FEMA for demolition and rebuild.¹⁴ The five substantially damaged schools are located in the counties of Kanawha and Nicholas. In Kanawha County, Herbert Hoover High School and Clendenin Elementary were severely damaged.¹⁵ Water from the Elk River crested about 7 feet deep in the first floor at Herbert Hoover High School. Richwood High and Middle Schools, and Summersville Middle School were also severely damaged. Per State Department of Education attendance records for the five schools, over 2,000 students had to be relocated to nearby schools with many of the students housed in portable classrooms until the new schools are built. The West Virginia School Building Authority has worked closely with FEMA to address the destruction of the schools. The schools will have to be moved outside of the floodplain to minimize the effect of future flooding. There is currently no timeline for when all schools will be rebuilt. FEMA granted \$2 million to aid recovery efforts for schools in Nicholas County. Specifically, the \$2 million

¹³ Interview with Henry Bergstrom, Deputy Secretary at WVDOT

¹⁴ <http://wvmetronews.com/2016/11/17/fema-commits-to-replacing-five-schools-destroyed-in-june-flood/>

¹⁵ NOAA Event Narrative



Image 16: Musical instruments litter the floor of the band classroom at Herbert Hoover High School where seven feet of water filled the room during the floods

grant is being used to pay for temporary facilities to replace those inundated by the floods. Students in the Elk River communities will be in portable classroom buildings before the end of the 2016-2017 school year, according to Kanawha County Facilities Director Chuck Wilson. Bridge Elementary is currently housing students and staff from Clendenin Elementary. Those schools have been operating on a split schedule this year after June flood waters destroyed Clendenin Elementary. Herbert Hoover High School is dealing with the same issue this school year. Those students and staff are on a split school day at Elkview Middle. Portables will also be installed at Elkview Middle. Wilson stated that project is slightly behind Bridge. “The portables at Bridge are scheduled to be complete by March 23 and Hoover will probably be mid-April,” he said. That’s nearly nine months since the flood.¹⁶

Public Parks

The Division of Natural Resources reported over \$2 million in damage to the state’s public parks, recreation areas, and wildlife. The Greenbrier River Trail, which cuts through Greenbrier County, sustained the brunt of the damage with parts of the trail covered in storm debris and large areas completely washed out. The trail is a 78-mile long rail trail used for bicycling, backpacking, cross-country skiing, and horseback riding. It traverses one of the most remote areas in the state and lies adjacent to the Monongahela National Forest, Seneca State Forest and Watoga State Park. The trail remains closed between mile 6.8 and milepost 13 because of the hazardous conditions as a result of the flooding.¹⁷ A summary of the damage is provided below.

Table 7: Damage to Public Parks

Greenbrier River Trail in Greenbrier & Pocahontas Counties	\$2m
Little Beaver State Park in Raleigh County	\$3k
Moncove Lake State Park in Monroe County	\$5k
Greenbrier State Park in Greenbrier County	\$100k
Babcock State Park in Fayette County	\$35k
Hawks Nest State Park in Fayette County	\$4k

¹⁶ <http://wvmetronews.com/2017/02/20/portable-classrooms-arrive-for-flooded-kanawha-county-schools/>

¹⁷ <http://www.greenbrierrailtrailstatepark.com/>

In addition, four wildlife management areas sustained the following estimated damage:

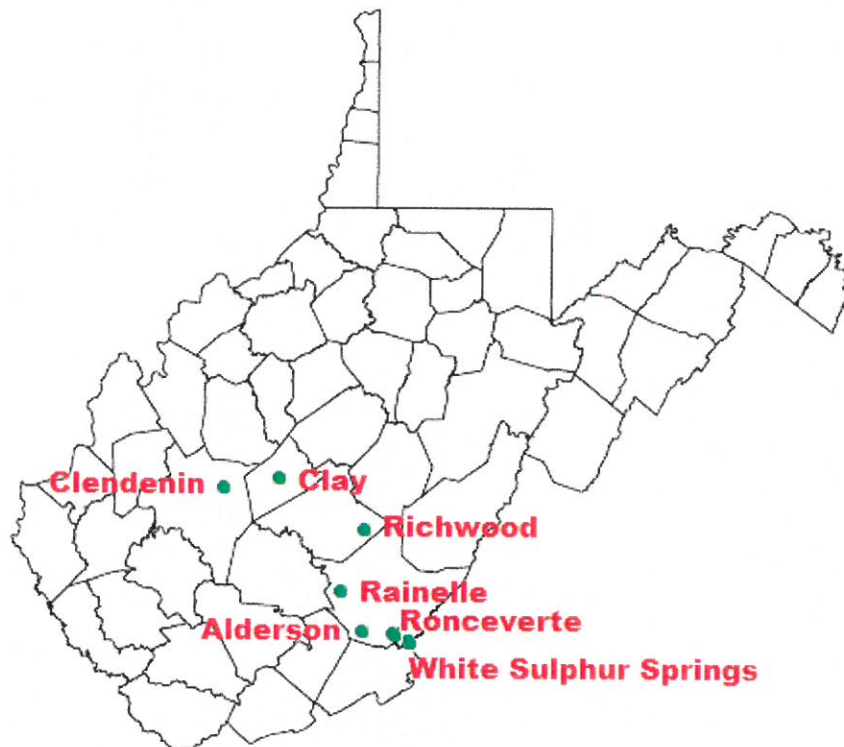
Table 8: Damage to Wildlife Management Areas

Public Stream Access Sites in Summers County	\$12k
Wallback Wildlife Management Area in Roane County	\$10k+
Edray Trout Hatchery in Pocahontas County	\$3k+
Bridge Handley Wildlife Management Area in Pocahontas County	\$3k+

Impact to Infrastructure in Local Communities

West Virginia had numerous rural water and waste water collection systems which sustained extensive damage from the flood. Most of the damage was to electrical systems including substations, motors, control panels, junction boxes, and instrumentation. The communities which suffered the most severe damage to water and waste water collections systems included the towns of Alderson, Clay, Clendenin, Rainelle, Richwood, and White Sulphur Springs. Through their elected officials all reported significant damage to their local infrastructure which is summarized here. WVDHSEM will continue to proactively guide these local jurisdictions through the FEMA PA process to ensure that all public services are restored to the impacted communities.

Figure 14: Map of impacted cities and towns



The town of Alderson reported extensive damage to the communities' water and wastewater collections systems which serves approximately 700 residents. Funding needed is estimated at \$2,500,000 and includes \$1,500,000 to repair damaged and aging wastewater collection systems, inspection of systems, and engineering services. Another \$1,000,000 will be needed to upgrade water filtration, increase water production and improve distribution systems.

The town of Clay will need \$3,500,000 to repair damaged to the distribution systems which serves almost 600 residents and extend services to the larger community, perform inspections of systems, and engineering services. Clay wastewater plant will require an additional \$1,500,000 to improve services through emergency backup power, flood proofing of the plant and to remove silt from the processing tanks.

The town of Clendenin experienced significant damage and reports in excess of \$12,000,000 needed to repair damages which includes \$1,500,000 to improve the distribution systems and extend services to the community, and perform inspections of systems and engineering services. Elk Valley PSD wastewater plant will require an additional \$6,500,000 to improve the collection system, repair slips along the Elk River, insulate the temporary line at Reynolds Avenue, repair emergency backup power and flood proofing of the lift stations, suction stations, and grinder stations. Additionally, Riverview Medical Center will require an estimated \$4,000,000 to repair flood damage to the building, repair and flood proof the electrical service and to reopen the 18 apartments.

The town of Rainelle has reported needs estimated at \$3,750,000 to repair damage to the water distribution systems which serves over 900 residents, including the lift and pump stations and the back-up generator. The Rainelle wastewater plant will require an additional \$1,500,000 to improve services through inspection, replacement and modernization of the collection systems to include emergency power and flood proofing. They also report they will require an additional \$1,750,000 to improve public services.

The town of Richwood reports it sustained \$66,000,000 in damage with most of the damage sustained at the water and wastewater processing plants which serves over 1,000 residents. Water loss at the plant is reported at 68%. They need funding to improve distribution/collection systems and extend services to the community, perform inspections of systems and engineering services. They also report \$9,000,000 in additional funding is needed to separate the storm and wastewater systems and to move the wastewater collection system currently located in the Cherry River. An additional \$3,000,000 to correct the storm water management on Oakford Ave to the Cherry River will also be required.

The town of White Sulphur Springs experienced damage to the community water and wastewater distribution and collection systems which serves over 1,500 residents. Additional funding needed is estimated at \$5,500,000 to repair damage to the water distribution systems and wastewater collection systems in the downtown area, perform inspections of systems, and engineering services.

Economic Impact

Pre-Existing Condition of the State's Economy

Prior to the June Floods West Virginia's economy was struggling from a downturn in coal production. Local economies throughout small towns all over West Virginia relied heavily on the coal industry. With reduced coal demand and natural gas markets trending downward, a substantial loss in jobs and in turn population, caused the State to fall into a recession beginning in 2015.¹⁸ As a result of the lagging economy, the State legislature has been forced to slash budgets in recent years. The budget deficit for the State's coming fiscal year is expected to be about \$500 million.¹⁹ The flooding event only worsened the economic problems experienced in the state, most notably a decline in income taxes due to joblessness and revenue losses due to less sales tax being collected.

Although affected communities are continuing the recovery process throughout the declared counties, they are faced with balancing the additional economic burden of long-term recovery in a state that has experienced significant population decline and stymied job growth in the last few years. The loss of coal jobs in recent years throughout Appalachia has halted the state's economy and forced many out of the workforce. Many former coal miners have failed to secure adequate employment outside of the coal industry as a result. Coupled with the state's opioid epidemic, the average West Virginian who has been affected by the flood will be vulnerable due to factors that other communities don't typically have to account for on such a large scale.

Image 17: Flooded businesses in Elkview



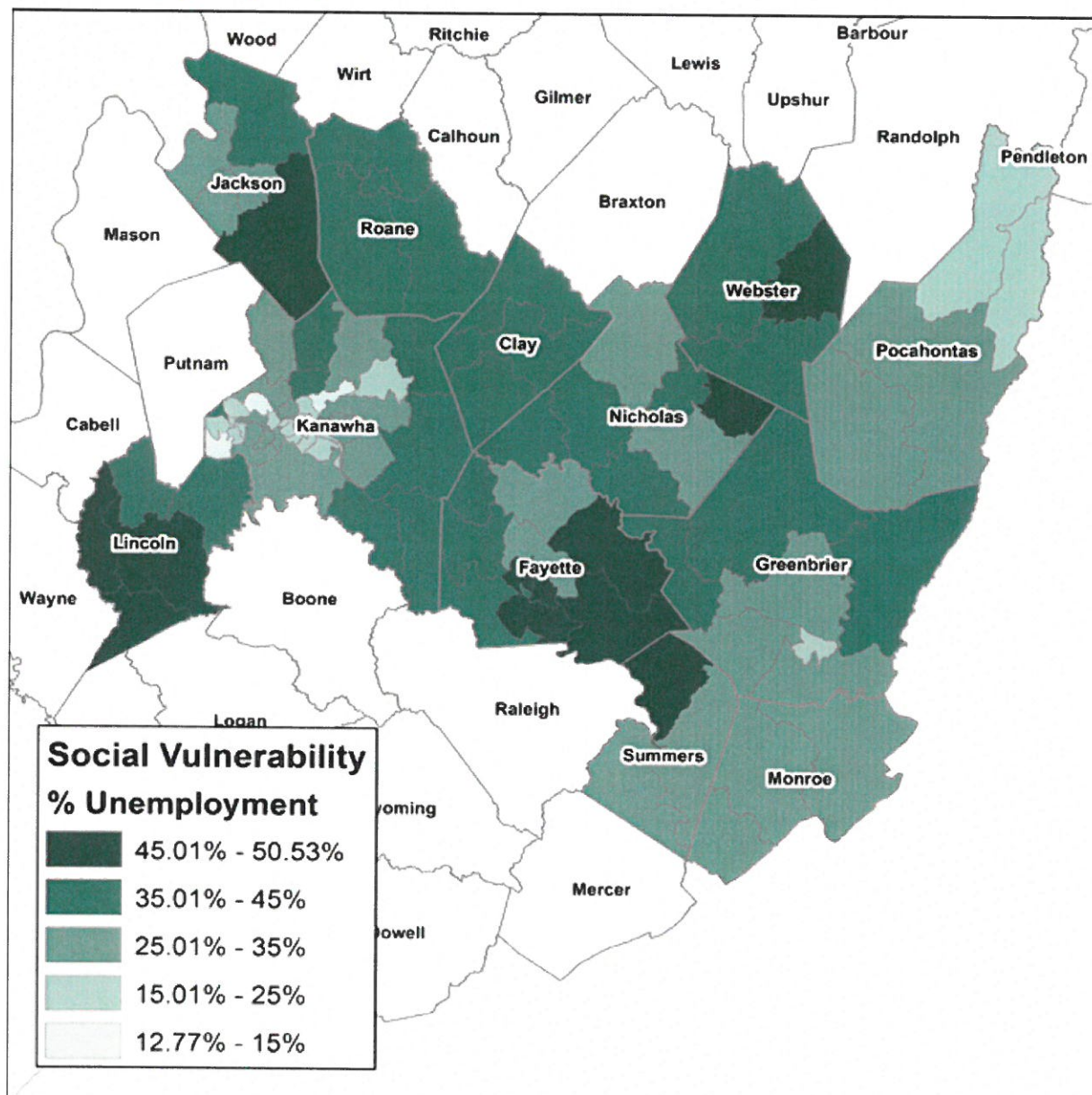
¹⁸ West Virginia Economic Outlook 2017 – 2021

¹⁹ <http://www.wvgazette.com/news/20170118/projected-2017-18-wv-budget-deficit-nears-500m>

Workforce/Unemployment

WorkForce West Virginia reported that the state unemployment rate was 6% prior to the flood. Although the unemployment rate improved slightly in the third quarter of 2016, it increased back to 6% by October 2016.²⁰ Compared to the U.S. unemployment rate in the same time period which decreased from 4.9% to 4.7%, West Virginia had the fourth highest unemployment rate in the U.S. The unemployment rate is directly tied to the state's loss of coal jobs, many of which sustained generations of families for decades. Additionally, many non-coal industry workers were unable to return to work immediately following the flood because of washed out roads and bridges. Officials with WorkForce West Virginia reported over 1,200 disaster unemployment claims with over \$2 million in lost wages as a result of the flood. The average weekly wage of the disaster claimants was \$472 per week which indicates a high impact to low-wage workers across the declared counties.

Figure 15: Unemployment by County



²⁰ <http://lmi.workforcewv.org/>

Small Business

The Small Business Administration received approximately 1,450 referrals for business loans of the nearly 9,000 applications submitted to FEMA, of which only 58 loans have been approved for a total of \$10 million dollars with the largest industry assisted being lessors of residential real estate or landlords.²¹ The low approval rate of business loans is indicative of the economic conditions in the state with many small business owners either being overleveraged and not willing to take a loan or denied for loan funding due to low credit worthiness or lack of required minimum income.

Additionally, RISE West Virginia, a small business grant program created by former Governor Earl Ray Tomblin, awarded mini grants to 229 small businesses as of the deadline of November 23, 2016. Small businesses affected by the flood were eligible to receive mini-grants of up to \$10,000.²²

Agriculture

The West Virginia Department of Agriculture reported approximately 40 counties with agriculture impact which includes the following estimates.

- 5,300 farms were affected
- \$1.7 million reported in corn lost/damaged
- \$1.6 million in hay lost/damaged
- \$500,000 reported in pasture damage
- \$1.2 million in reported damages to farm structures
- \$60,000 worth of machinery damages/losses
- 700 total livestock were lost (poultry (600), cattle, sheep, hogs)
- Farm fences were damaged or destroyed in at least 26 counties

Furthermore, eleven counties have requested Emergency Conservation Program implementation with approximately \$2 million in estimated damage for the following clean-up activities of agriculture land, not including streambanks or stream channels:

- Debris removal
- Grading/shaping and reseeding
- Fence replacement and repair
- Conservation structure replacement and repair

Multiple notices of loss related to mechanically harvested feed and purchased feed stuffs have been accepted through the Emergency Livestock Assistance Program (ELAP).

²¹ SBA Disaster Business Loan dataset

²² <http://wvmetronews.com/2016/12/29/rise-west-virginia-grants-for-flood-recovery-top-1-8-million/>

Tourism

The Greenbrier Classic, a world-class golf tournament held at the Greenbrier Resort near White Sulphur Springs, was forced to cancel its yearly event due to the floods. According to *The Greenbrier Classic: Impacts and Opportunities* report, the State is thought to have missed out on upwards of \$2.5 million in tax revenue. In years past, the event produced an estimated \$21 million in local lodging, shopping, food, tickets, transportation and other entertainment revenue, all of which was lost because of the cancellation. According to the 2011 economic impact study of the first tournament, the event had an overall economic impact of more than \$111 million.²³ Additionally, the state's whitewater rafting industry has seen declines due to the flooding. Recently released by the West Virginia Division of Natural Resources, which tracks the number of people rafting in the state each month, the 2016 commercial rafting numbers show that 100,312 people rafted the New and Gauley Rivers last year, down 4,687 people from 2015.

UNMET NEEDS ASSESSMENT

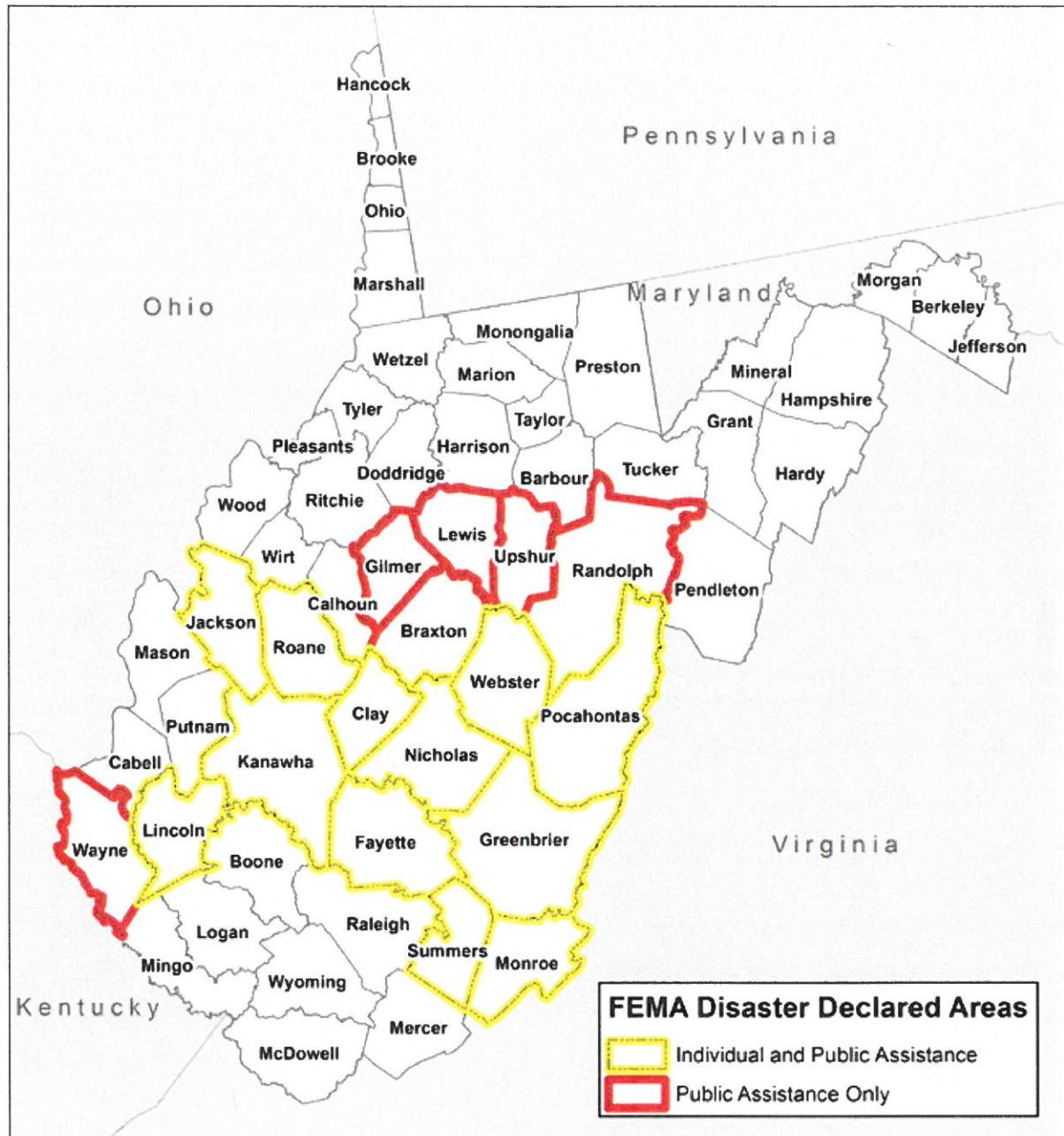
Housing Needs Assessment

Background

Once the State completed its full impact assessment, West Virginia turned its focus to the remaining unmet needs stemming from the flood in June 2016. As stated previously, this disaster affected 18 of the state's 55 counties, with 12 counties declared eligible for both FEMA IA and PA funds. The unmet needs assessment below considers federal and state resources, including the most recently available data provided by FEMA, HUD, the Small Business Administration (SBA), National Flood Insurance Program (NFIP), and other sources to estimate unmet needs specific to the housing sector. HUD initially identified the two most impacted and distressed counties from this disaster as Kanawha and Greenbrier Counties. Accordingly, this unmet needs assessment focuses on statewide impacts, with specific sections detailing particular needs within the initial HUD-identified most impacted and distressed areas and where relevant, additional locations such as Clay and Nicholas Counties.

²³ http://www.timeswv.com/news/effect-of-the-greenbrier-classic-priceless/article_cd042352-286d-11e5-a44f-cb2d73effb62.html

Figure 16: FEMA Disaster Declared Counties



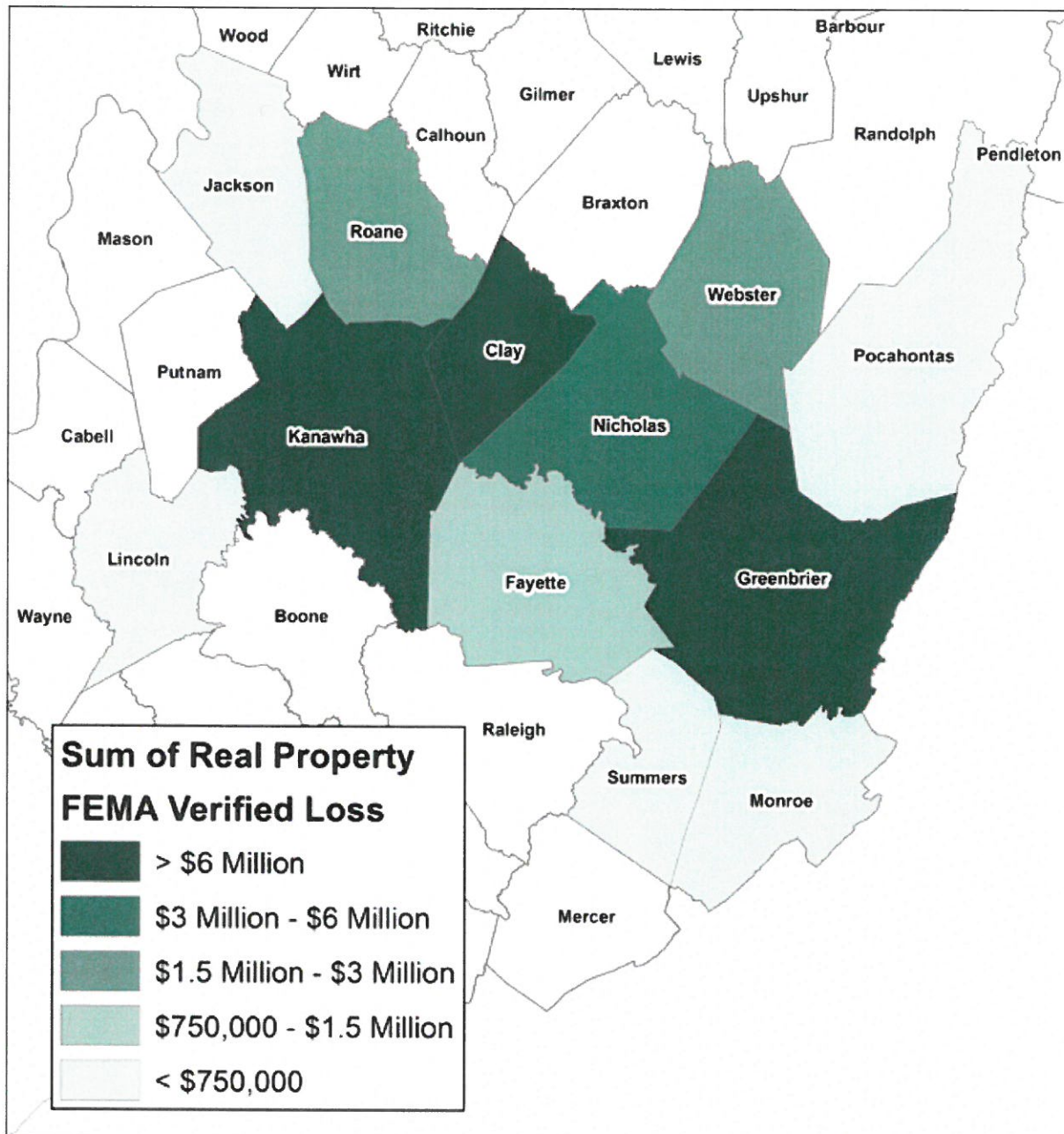
With a need for residential homes as well as temporary and permanent housing, the State analyzed FEMA and SBA applicant data to estimate the number and severity of damaged homes within the impacted counties. These sources included datasets from the FEMA Individuals and Households Program, SBA Disaster Loans, and NFIP claims data. The State overlaid these datasets with census data to measure the social vulnerability of impacted populations called the Social Vulnerability Index (SoVI®).

FEMA INDIVIDUALS AND HOUSEHOLDS PROGRAM (IHP)

The following data has been summarized from the FEMA Individuals and Households Program (IHP) data set. The IHP provides financial help or direct services to those who have necessary expenses and serious needs if unable to meet the needs through other means. The IHP statistics for West Virginia show many impacted residents carried no flood insurance whether they were in a flood zone or not. Many residents have expressed that flood insurance in their areas is too expensive, and therefore, not a feasible option. Additionally, many of those impacted are low-to-moderate income households and will require additional funds to fully recover to their pre-storm position.

- 8,732 FEMA registrations were received across the declared counties.
- Of the 7,053 registrants referred to the IHP, 5,130 had a real property verified loss, of which approximately 3,500 were deemed eligible for repair/replacement funding.
- The average IHP home repair/replacement grant award was \$8,260.
- Over \$45 million calculated in FEMA Real Property Verified Loss (RPVL).
- Approximately 90% of flood damaged homes were deemed unsafe after inspection.
- Based on gross income reported by the IHP applicants, over 2/3 of the applicant pool was below the 80% AMI level for their county.
- Of the 2,302 IHP applicants whose properties were located in a flood zone, only 385 had flood insurance, or about 17%.
- Of the 4,751 IHP applicants whose properties were not located in a flood zone, only 301 had flood insurance, or about 6%.

The map on the following page illustrates which counties had the highest amount of FEMA real property verified losses. Clay, Greenbrier, and Kanawha Counties each sustained more than \$6 million in FEMA real property verified losses, followed by Nicholas County which sustained between \$3 and \$6 million, then Webster and Roane Counties which experienced between \$1.5 and \$3 million. The remaining declared counties were recorded as having less than \$1.5 million in FEMA real property verified losses.

Figure 17: Sum of FEMA Real Property Verified Loss by County**SMALL BUSINESS ADMINISTRATION DISASTER HOME LOANS**

The SBA Disaster Home Loan program offers low-interest loans to homeowners in a declared disaster area to assist with the repair or replacement of damaged real and personal property. After a review of the SBA Disaster Home Loan data in an economically depressed state such as West Virginia, it is evident that many disaster-affected residents were not eligible for SBA loans because of reasons such as failure of the minimum income test or lack of repayment ability due to unsatisfactory credit. Furthermore, over 65% of eligible FEMA applicants did not attempt to apply for SBA loans. During outreach, the State heard from constituents and other program administrators that many people could not take on additional financial obligations due to loss of employment and low wages and in turn, did not apply

for the SBA Disaster Home Loan program. Below are some of the statistics gleaned from the data which support this fact. The following data has been captured from the SBA Disaster Home Loan data set.

- 1,762 SBA applications were received.
- 1,058 applications were declined or withdrawn (60%).
- 697 applicants were approved for a loan (40%).
- 973 applications were received with a total calculated verified loss to real estate of \$62.6 million.
- The average home loan for damage to real estate was \$42,571.

NATIONAL FLOOD INSURANCE PROGRAM (NFIP)

The following data has been extracted from the NFIP data set. As evidenced previously from the FEMA IHP data, many West Virginians were without flood insurance when the June flood hit, most notably for lack of affordability of coverage or because their property was located outside a flood zone; and therefore, not required to carry flood insurance. Of the 7,053 FEMA IHP applicants, 90% did not have flood insurance. Of the residents with flood insurance only approximately 800 received a building claim payment.

- 977 NFIP claims were filed.
- 82% of claimants received a building damage payment.
- The average building claim payment was \$41,198.
- \$32.8 million in total claims were paid for building damage across the 12 counties.
- Over 65% of building claim payments were approved in seven small towns: Clendenin, Elkview, Richwood, Rainelle, Ronceverte, Alderson, and White Sulphur Springs.

Assessing the Demand for Housing Assistance

With limited funds available, the State was very deliberate in its assessment of demand for housing recovery funds. In order to address the demand for housing, the State coupled outreach efforts with a detailed assessment of damage at the unit level. This allowed the State to understand the demand for housing repairs in monetary terms and related support to households. To estimate the demand for housing rehabilitation, the State analyzed the FEMA Individual Assistance dataset, SBA disaster home and business loan dataset, as well as NFIP claims data for Disaster 4273. FEMA Individual Assistance data accurately reflects the impact of a disaster on a population by illustrating the number of registrations and the number of households approved for housing assistance. SBA disaster home loan data reflects registrations and applications for loans which result in valuations of verified loss that are more accurate to scale than FEMA verified loss calculations. Finally, NFIP claim data provides the state with one component necessary to perform the duplication of benefits calculation for the affected population and potential CDBG-DR applicant pool.

Determining Unmet Housing Needs

To understand the unmet need to be addressed by the State's CDBG-DR programs, the State built upon the above estimates of the demand (or required funding) for flood-related reconstruction, rehabilitation, and mitigation by estimating the verified loss as well as the "supply" of funding already available to offset outstanding verified loss. Many local, state, and federal programs have funded some of the need for homeowners and landlords to undertake rebuilding and rehabilitation measures. The State will use CDBG-DR funding to complement and build upon such resources.



Image 18: Damaged home in Clendenin

To determine the housing unmet need, the State first analyzed the 5,130 applicants to the FEMA Individuals and Households Program (IHP) who had a real property verified loss. Forty percent (or 2,088) of the FEMA applicants had an SBA status of FIT (failed income test). Such determination indicates, per SBA's standard operating procedures, that automatic referral to SBA's disaster loan program was bypassed and these applicants were instead referred directly to FEMA's Individuals and Household Grant Program.²⁴ Additionally, of the applicants who passed the income test and were automatically referred to SBA, twenty percent (or 376) failed the Fixed Debt Method analysis, which is an analysis to determine if applicants with household incomes above the income test table threshold have repayment ability. If they fail, a loan status of Summary Decline is indicated for the loan and the applicants are immediately referred to FEMA IHP. Given this analysis, the State understood early on in its unmet needs assessment that there would be a sizable unmet housing need due to the lack of recovery resources available to the average West Virginian, many of whom have experienced economic hardships in the last few years.

West Virginia followed HUD's lead in determining housing damage and the cost to repair that damage. Per the Federal Register Notices applicable to this Allocation (81 FR 83254, 82 FR 5591), the average cost to fully repair a home for a specific disaster to code is calculated using the average real property damage repair costs determined by the Small Business Administration for its disaster loan program for the subset of homes inspected by both SBA and FEMA for 2011 to 2013 disasters. Because SBA is inspecting for full repair costs, it is presumed to reflect the full cost to repair the home, which is generally more than the FEMA estimates on the cost to make the home habitable. Therefore, West Virginia used SBA's disaster loan data for the flood and determined an average real property verified loss amount of \$64,380 among 973 SBA disaster home loan applicants for a total verified loss of \$62,642,237. The State analyzed the remaining 789 unapproved SBA disaster home loan applicants without a real property verified loss amount and found that they were almost all declined for an SBA loan for economic reasons already discussed above, such as lack of repayment ability, failure of minimum income test, and unsatisfactory credit. Because of this fact coupled with an understanding of SBA's standard operating procedures, it is presumed by West Virginia that this population was declined for loan assistance very early on in the SBA application process and therefore, was never granted a damage assessment by SBA. Accordingly, West Virginia applied the average verified loss of \$64,380 noted above to the unapproved population which yielded a total estimated verified loss for these 789 applicants of \$50,795,820. Thus, a total of \$113,437,560 in real property verified loss was determined for the 1,762 applicants who applied for SBA assistance and were ultimately approved or denied a loan.

²⁴ <https://www.sba.gov/sites/default/files/SOP%2050%2030%207.pdf>

*Table 9: Verified Loss of FEMA Applicants Referred to SBA***VERIFIED LOSS OF FEMA APPLICANTS REFERRED TO SBA**

SBA Applicants with a Real Estate Verified Loss	973	
Average Real Estate Verified Loss	\$	64,380
Verified Loss of SBA Applicants with a Damage Assessment		\$ 62,641,740
SBA Applicants without a Real Estate Verified Loss	789	
Average Real Estate Verified Loss	\$	64,380
Estimated Verified Loss of SBA Applicants Without a Damage Assessment		\$ 50,795,820
SBA Applicants with a Real Estate Verified Loss	1,762	\$ 113,437,560

Next, the State of West Virginia set out to determine the total estimated SBA real property verified loss amount for those FEMA applicants who were determined to have physical damage to their property per the FEMA damage assessment process, but did not apply or were not referred to the SBA Disaster Home Loan Program, namely because of economic hardship. The State reviewed the FEMA IHP dataset and determined that a total of 5,129 FEMA registrants had real property FEMA verified loss amounts. Applying the average SBA verified loss methodology above to this population yields an additional 3,367 applicants (5,129 FEMA applicants less 1,762 SBA referrals already accounted for) with a total of \$216,767,460 in real property verified loss.

*Table 10: Verified Loss of FEMA Applicants that did not Apply for SBA***VERIFIED LOSS OF FEMA APPLICANTS THAT DID NOT APPLY FOR SBA**

FEMA Applicants with a Real Property Verified Loss	5,129	
Total SBA Applicants	(1,762)	
Total FEMA Applicants with a Real Property Verified Loss That Did Not Apply for SBA	3,367	
Average Real Estate Verified Loss	\$	64,380
Total Estimated Verified Loss of Non-SBA Applicants		\$ 216,767,460

Finally, the State of West Virginia wanted to also determine the real property verified loss of impacted rental property in the state because of the incidence of low-to-moderate income individuals who typically occupy these properties, particularly in heavily impacted areas such as Clendenin, Rainelle, and White Sulphur Springs. The State reviewed the FEMA IHP dataset for renters and determined that of the 1,162 renters whose unit was inspected by FEMA a total of 783 had structural damage. Applying the average SBA verified loss methodology above to this population yields an additional \$50,409,540 in estimated real property verified loss for rental properties.

Table 11: Estimated Verified Loss of Rental Properties

ESTIMATED VERIFIED LOSS OF RENTAL PROPERTIES		
FEMA Renter Applicants with Inspected Damage		783
Average Real Estate Verified Loss	\$	64,380
Total Estimated Verified Loss of Rental Properties	\$	50,409,540

In total, the State of West Virginia determined a total real property verified loss among its 5,912 potentially eligible applicants for housing repair and rehabilitation of \$380,614,560. To complete the unmet housing needs assessment, the State reduced the total real property verified loss by FEMA repair payments (\$28,656,603), NFIP building claim payments to individuals (\$27,188,147), SBA home loans for real estate (\$27,373,186), and SBA business loans to lessors of residential buildings and dwellings (\$1,902,900) to determine a total housing unmet need of \$295,493,724.

Table 12: Total West Virginia Unmet Housing Need

TOTAL WEST VIRGINIA UNMET HOUSING NEED		
Total Real Property Verified Loss	\$	380,614,560
FEMA Repair Payments	\$	(28,656,603)
NFIP Building Claim Payments to Individuals	\$	(27,188,147)
SBA Disaster Home Loans for Real Estate	\$	(27,373,186)
SBA Disaster Business Loans to Lessors of Residential Buildings	\$	(1,902,900)
Total Housing Unmet Need	\$	295,493,724
Total Housing Unmet Need including 20% Resilience Costs*	\$	354,592,469

**To calculate the Total Housing Unmet Need including 20% Resilience Cost, the State added 20% (the industry standard cost of resiliency measures) to the calculated unmet need.*

Social Vulnerability Index (SoVI®)

The State has recognized that it must be deliberate in delivering CDBG-DR programs to the most vulnerable and devastated communities. Because of the vast amount of damage throughout the declared counties and the limited recovery dollars available, the State has primarily assessed the unmet housing need of the most vulnerable populations by utilizing the SoVI® method. Given the almost \$300 million in remaining unmet housing need, but the limited funding available to address those unmet needs, West Virginia considered where within the impacted areas exists uneven capacity for preparedness and response; thus, where resources might be used most effectively to reduce the pre-existing vulnerability. To that end, West Virginia utilized the Social Vulnerability Index (SoVI®), which is a tool for assessing pre-existing vulnerabilities to environmental hazards and was developed

by the University of South Carolina in response to the devastating flood that hit South Carolina in October 2015. The SoVI® is a comparative metric that facilitates the analysis of differences in social vulnerability at a certain level of geography – in the case of West Virginia, at the county level. The index, in this iteration, synthesizes 29 socioeconomic variables, listed below, which, with support from research literature, can contribute to a reduction in a community's ability to prepare for, respond to and recover from hazards.

Table 13: Socioeconomic Variables

<i>VARIABLE</i>	<i>DESCRIPTION</i>
QASIAN	Percent Asian
QBLACK	Percent Black
QHISP	Percent Hispanic
QNATAM	Percent Native American
QAGEDEP†	Percent of Population Under 5 Years of 65 and Over
QFAM†	Percent of Children Living in Married Couple Families
MEDAGE	Median Age
QSSBEN	Percent of Households Receiving Social Security
QPOVTY	Percent Poverty
QRICH200K	Percent of Households Earning Greater Than \$200,000 Annually
PERCAP	Per Capita Income
QESL†	Percent Speaking English as a Second Language with Limited English Proficiency
QFEMALE	Percent Female
QFHH	Percent Female Headed Households
QNRRES	Percent of Population Living in Nursing and Skilled Nursing Facilities
HOSPTPC	Hospitals Per Capita (County Level Only)
QNOHLTH†	Percent of Population Without Health Insurance (County Level ONLY)
QED12LES	Percent with Less Than 12th Grade Education
QCVLUN	Percent Civilian Unemployment
PPUNIT	People Per Unit
QRENTER	Percent Renters
MDHSEVAL†	Median House Value
MDGRENT†	Median Gross Rent
QMOHO	Percent Mobile Homes
QEXTRCT	Percent Employment in Extractive Industries
QSERV	Percent Employment in Service Industry
QFEMLBR	Percent Female Participation in Labor Force
QNOAUTO†	Percent of Housing Units with No Car
QUNOCCHU	Percent of Unoccupied Housing Units

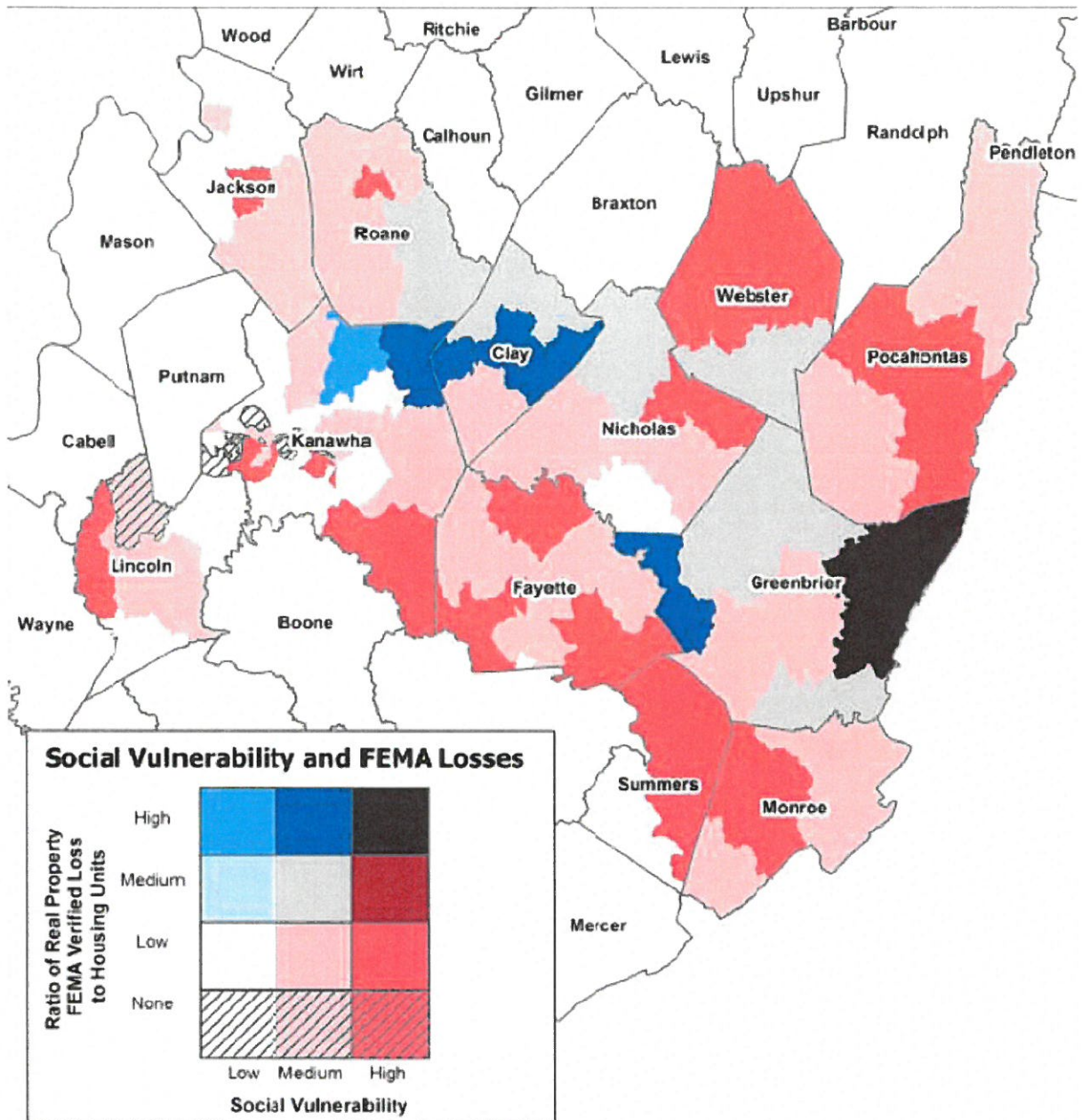
The SoVI® built in West Virginia's impact and needs assessment is primarily derived from U.S. Census Bureau and FEMA IHP data. The SoVI® created for the state's 12 counties affected by DR-4273 incorporates six general components synthesizing the 29 socioeconomic variables:

- Class and race
- Non-extractive (less rural)
- Age
- Ethnicity
- Gender
- Housing characteristics (persons per unit, renters, unoccupied units, female-headed households)

In order to identify communities with the greatest need for additional resources, West Virginia combined SoVI® with other data sources, such as the FEMA IA dataset, NFIP data and SBA data. The State has collaborated with Dr. Christopher Emrich with Disaster Metrics, Inc. who was a key partner for the development of South Carolina's long-term recovery plan stemming from the state's 2015 floods. This collaboration resulted in West Virginia's ability to target the use of these resources to the communities most impacted and least able to recover on their own from the 2016 floods.

The following SoVI® map illustrates the results of the analysis by overlaying the most vulnerable and severely impacted population among the declared counties. It highlights specific areas within the declared counties where the most impacted populations reside by layering the disaster data over census tract data. By utilizing the longitude and latitude coordinates of the disaster affected properties gleaned from the FEMA IHP data set, the State has been able to identify exactly which towns were hit the hardest and consist of the most critically vulnerable populations.

This SoVI® map identifies multiple areas determined to have the highest levels of pre-existing social vulnerability and those which experienced high concentrations of damage. These communities are located in eastern and southwestern Greenbrier, central Clay, northeastern Nicholas and northern Kanawha Counties.

Figure 18: FEMA verified losses

The SoVI® method allows the State to effectively target the communities in which recovery from the flood has been especially hindered by the economic conditions presently experienced in those areas. With this Action Plan the State will implement programs which will be primarily focused on housing recovery, ensuring that supplementary activities will further support that mission. The State will comply with the requirement that 80% of all CDBG-DR are spent in the two most affected counties, Greenbrier, Kanawha, Clay, and Nicholas Counties (Clay and Nicholas included pursuant to an approved waiver request received by the State from HUD), as directed by the Federal Register Notice.

SoVI© Town Analysis

A SoVI® analysis of the 12 declared counties indicates that 10 of the counties have areas with high levels of pre-existing social vulnerability. The town of White Sulphur Springs, located in the county of Greenbrier, has the highest social vulnerability and highest ratio of real property FEMA verified loss. Using the unmet housing need calculation methodology previously explained translates to an unmet housing need of almost \$19 million in White Sulphur Springs alone. Also of note, there are numerous other high and medium level SoVI® areas, such as Clendenin, Rainelle, and Richwood which sustained high losses and have an estimated unmet housing need of \$32 million, \$19 million, and \$11 million, respectively.

*Tables 14 & 15: SoVI®***HIGH SoVI®**

<i>County</i>	<i>Town</i>	<i>Estimated Unmet Housing Need</i>	
Greenbrier	White Sulphur Springs	\$	18,426,353
Webster	Webster Springs	\$	7,018,445
Nicholas	Richwood	\$	5,838,704

MEDIUM SoVI®

<i>County</i>	<i>Town</i>	<i>Estimated Unmet Housing Need</i>	
Kanawha	Clendenin	\$	32,173,124
Greenbrier	Rainelle	\$	18,981,818
Clay	Procious	\$	6,650,364
Nicholas	Summersville	\$	6,448,227
Greenbrier	Rupert	\$	6,265,507
Nicholas	Richwood	\$	5,828,709
Clay	Procious	\$	6,650,364

The following maps (Figures 19-23) show towns within the declared counties that have more than \$6 million in estimated housing need with high and medium levels of SoVI®. Please note that the town of Richwood is split between medium and high SoVI® areas.

Figure 19: Unmet Housing Need

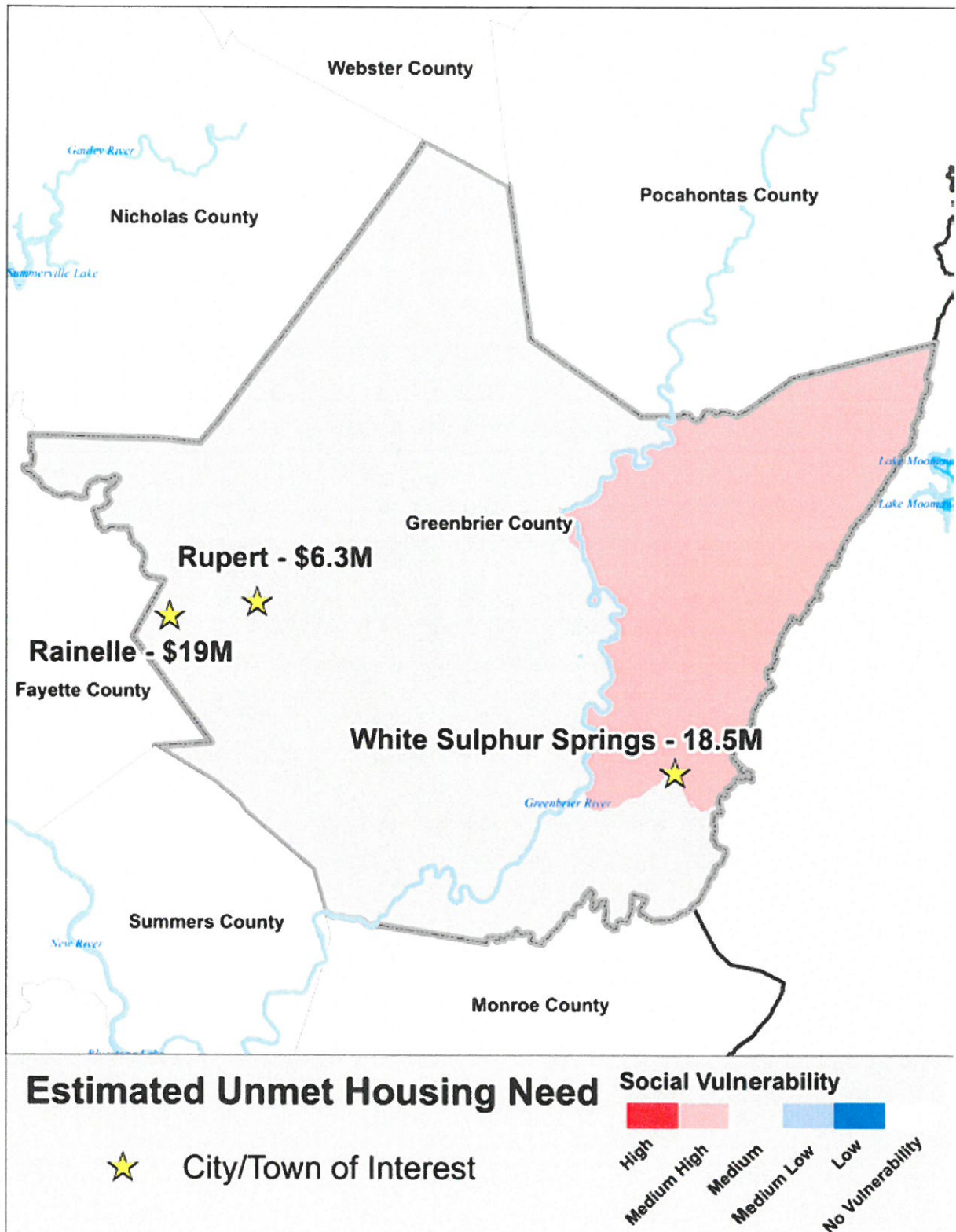


Figure 20: Unmet Housing Need

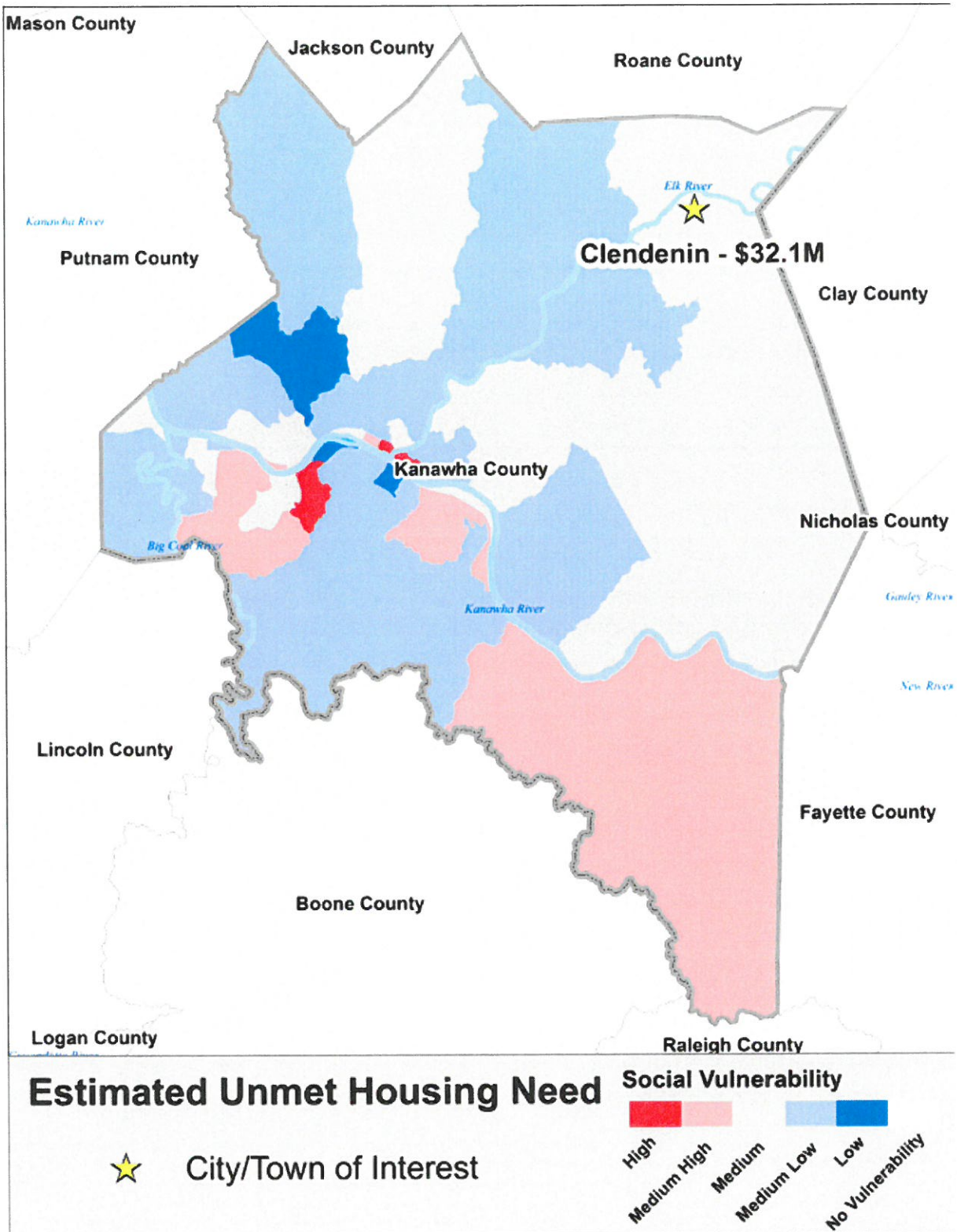


Figure 21: Unmet Housing Need

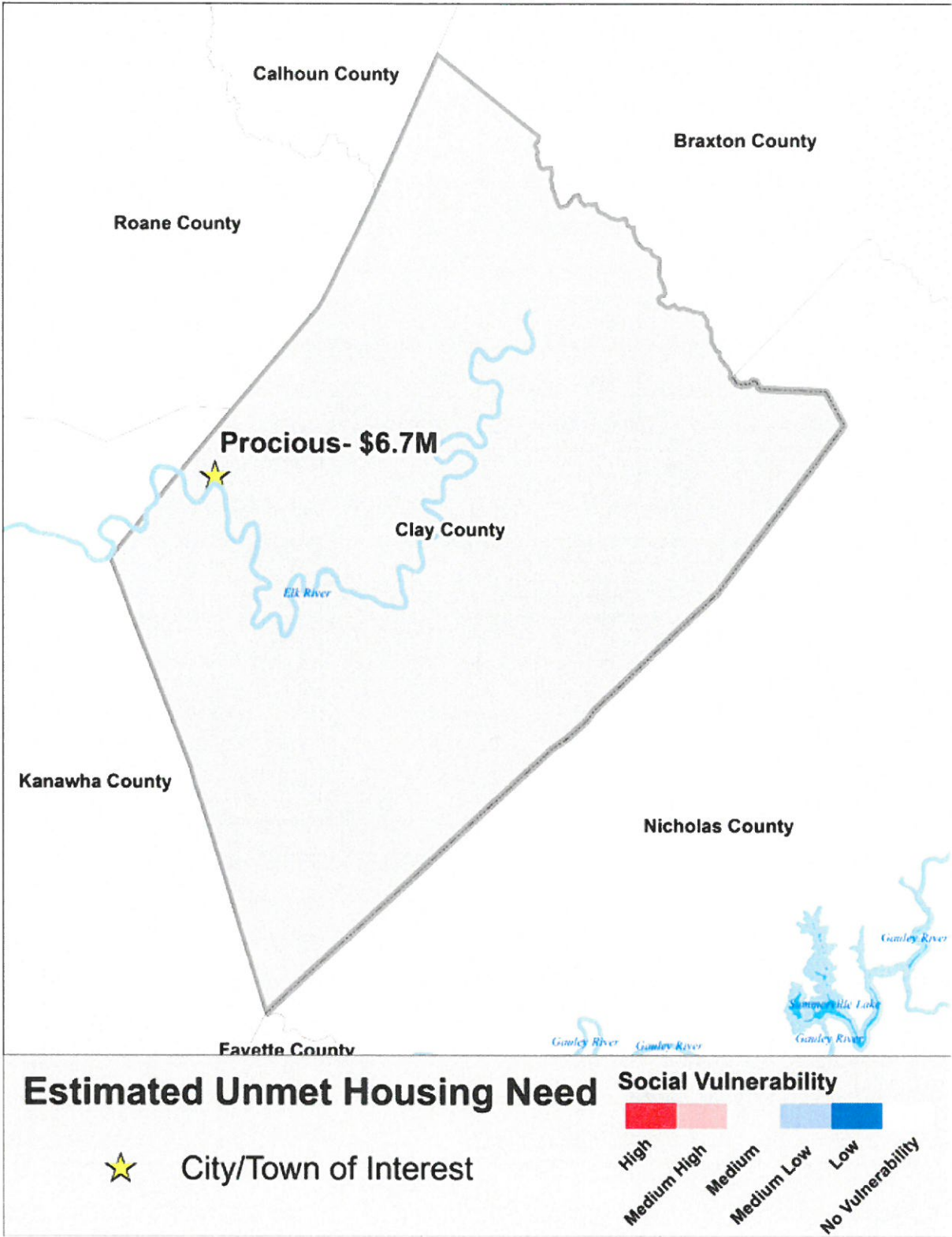


Figure 22: Unmet Housing Need

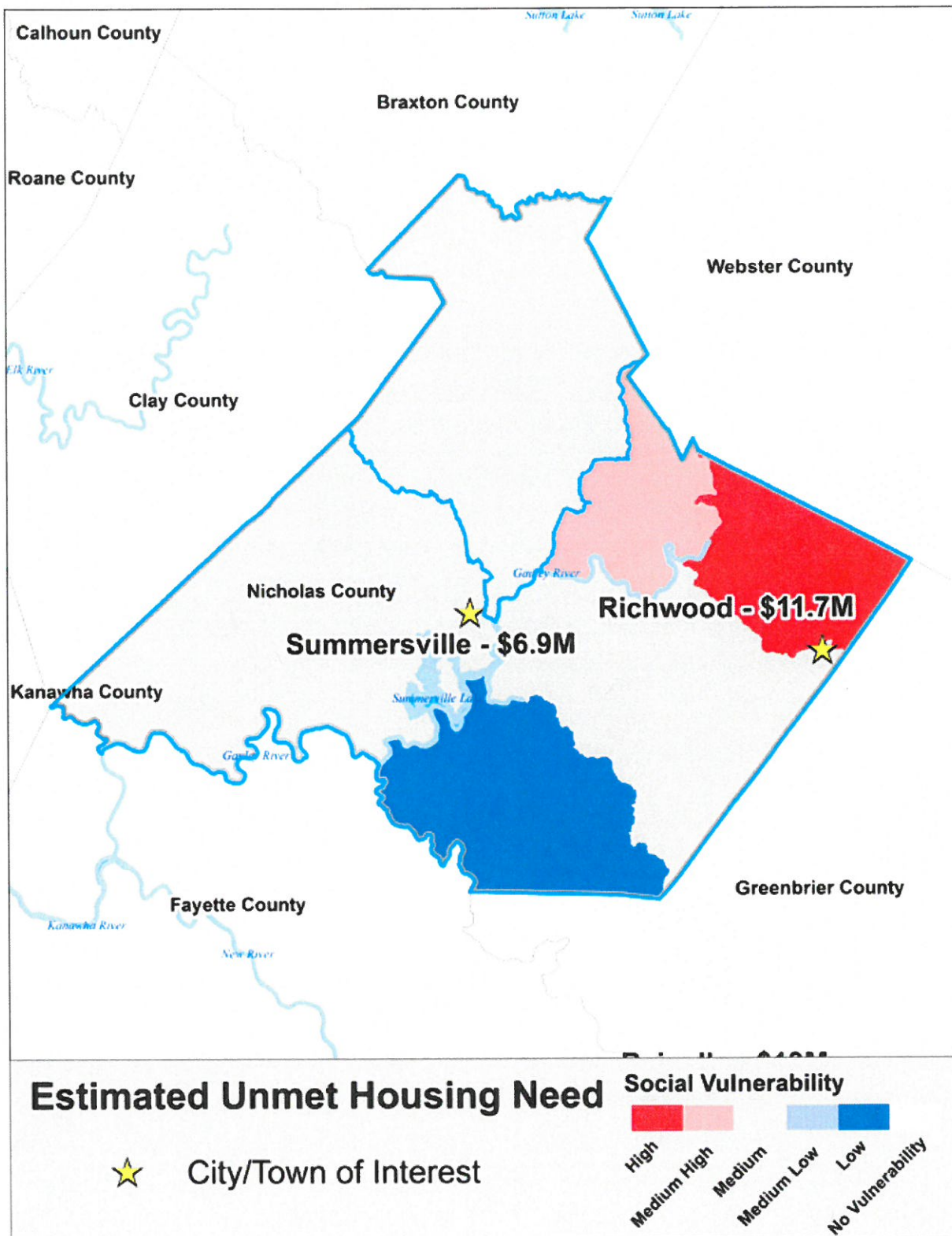
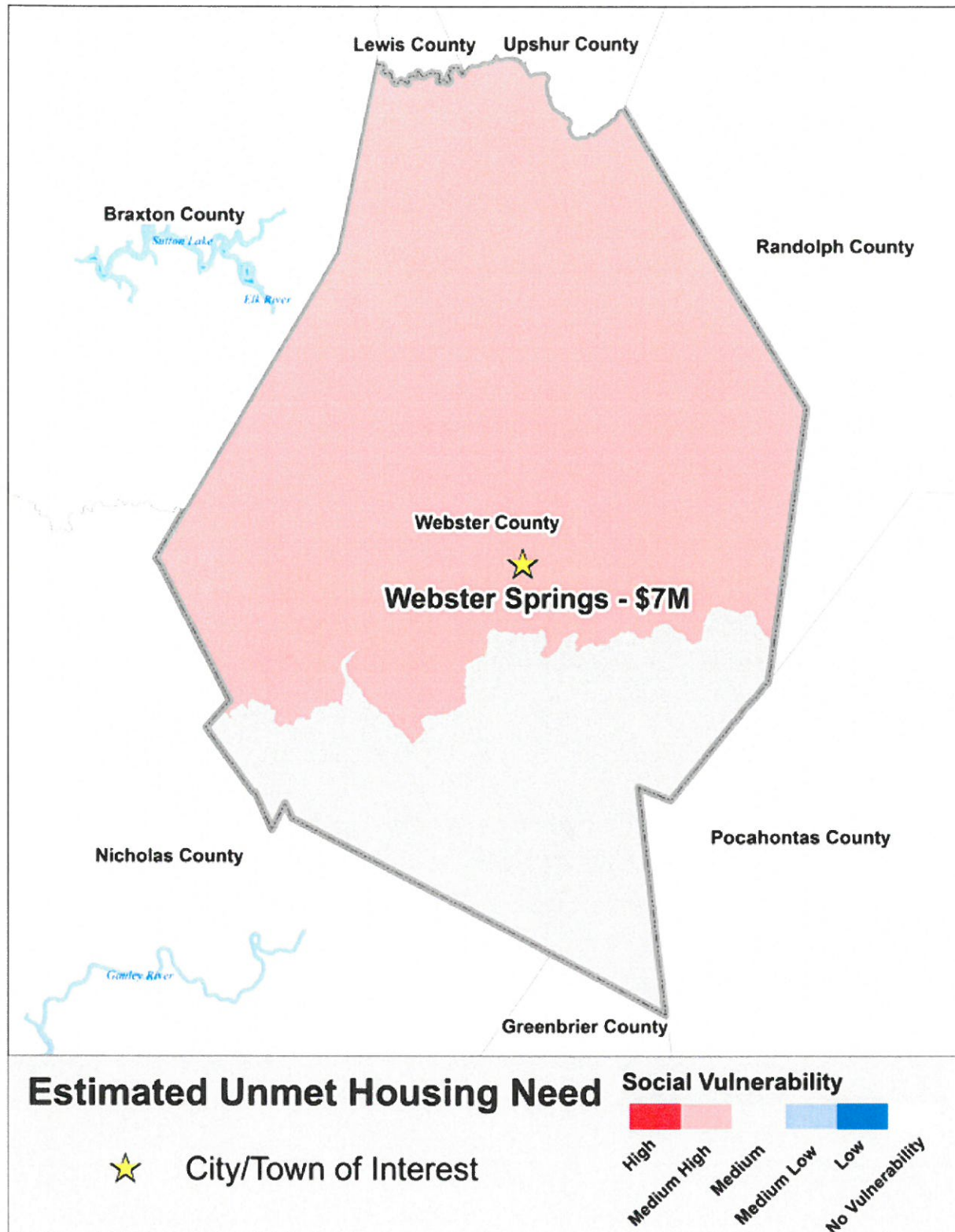


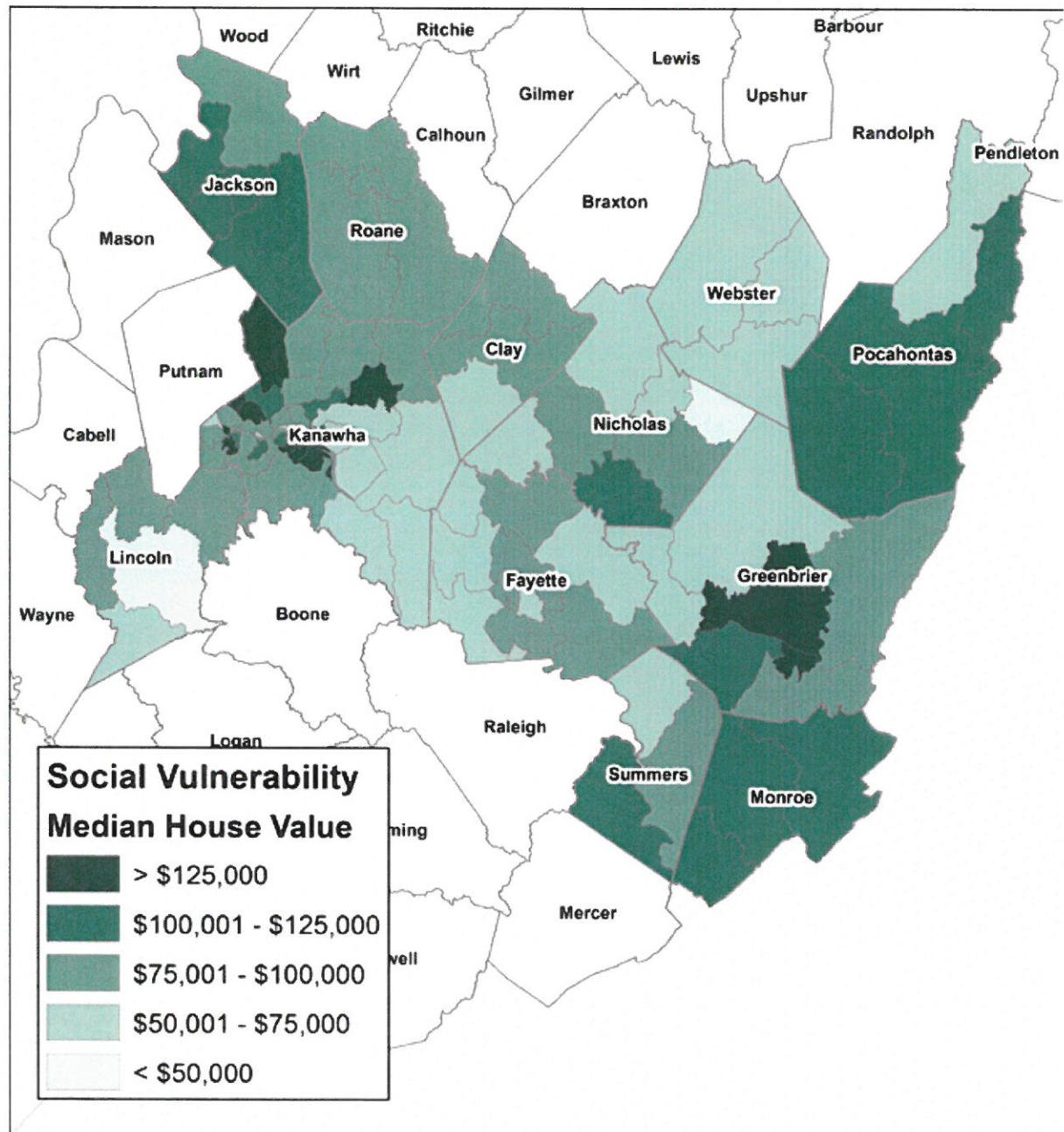
Figure 23: Unmet Housing Need



Housing Goals

The State's housing recovery programs are designed to meet the unmet needs of the most vulnerable people described above affected by June 2016 flooding, including homeowners and tenants of rental properties. The State's assessment of the flood impact magnified the remaining unmet need for housing recovery funds, especially in relation to the most vulnerable populations in the State. Therefore, the State's goal is to deliver a housing recovery program that primarily considers and addresses those unmet housing needs, namely single family owner occupied housing and small rental affordable housing.

Figure 24: Median Household Value



With the oldest population in the country, having the highest homeownership rate, and an average low median home value, the State believes it can deliver the most cost-effective recovery effort by focusing on single family homes throughout the declared counties. The State of West Virginia is unique in that it has the highest rate of owner-occupied housing units without a mortgage in the nation.²⁵

Table 16: Housing Units without a Mortgage by State

State	Total Housing Units	Housing Units Without a Mortgage	Percent	State	Total Housing Units	Housing Units Without a Mortgage	Percent
Alabama	1,269,145	530,527	42%	Montana	275,063	118,398	43%
Alaska	159,056	54,955	35%	Nebraska	487,948	183,748	38%
Arizona	1,513,861	518,999	34%	Nevada	559,793	165,946	30%
Arkansas	752,312	326,537	43%	New Hampshire	369,175	117,791	32%
California	6,909,176	1,873,462	27%	New Jersey	2,056,107	633,834	31%
Colorado	1,302,266	347,018	27%	New Mexico	519,676	220,929	43%
Connecticut	906,227	271,065	30%	New York	3,894,722	1,432,507	37%
Delaware	244,849	77,318	32%	North Carolina	2,459,072	849,813	35%
Florida	4,765,260	1,917,391	40%	North Dakota	192,185	89,660	47%
Georgia	2,263,697	724,493	32%	Ohio	3,040,444	1,057,106	35%
Hawaii	256,389	84,141	33%	Oklahoma	961,384	411,135	43%
Idaho	405,865	135,701	33%	Oregon	939,637	305,401	33%
Illinois	3,177,705	1,073,539	34%	Pennsylvania	3,431,790	1,322,343	39%
Indiana	1,726,338	563,783	33%	Rhode Island	246,909	73,468	30%
Iowa	883,808	342,647	39%	South Carolina	1,244,998	496,104	40%
Kansas	742,564	287,105	39%	South Dakota	225,219	96,982	43%
Kentucky	1,148,752	464,388	40%	Tennessee	1,672,329	651,501	39%
Louisiana	1,136,709	521,658	46%	Texas	5,693,770	2,297,484	40%
Maine	393,995	144,764	37%	Utah	629,584	178,002	28%
Maryland	1,447,662	366,182	25%	Vermont	182,584	65,366	36%
Massachusetts	1,583,667	463,504	29%	Virginia	2,027,005	595,569	29%
Michigan	2,728,815	1,021,100	37%	Washington	1,668,071	500,583	30%
Minnesota	1,522,618	487,597	32%	West Virginia	537,266	279,165	52%
Mississippi	749,982	357,741	48%	Wisconsin	1,547,197	530,963	34%
Missouri	1,590,020	578,530	36%	Wyoming	156,675	64,130	41%

²⁵ 2011-2015 American Community Survey 5-Year Estimates

This puts residents at risk for recovery because of a lack of insurance required by most mortgage companies. By targeting recovery efforts to the most vulnerable population, keeping in mind the distinctive factors that affect the average resident, the State will stretch its limited funds to achieve permanent, sustainable housing solutions that allow residents with the weakest ability to recover to remain in West Virginia and, where possible, return to their beloved neighborhoods. The objectives of the programs include:

- Helping vulnerable populations affected by June 2016 flooding directly by replacing and rehabilitating housing units, including identifying opportunities for mitigation enhancement measures;
- Assisting vulnerable populations affected by flooding by improving the resilience of their housing units while restoring their buildings/residences; and,
- Supporting resilience improvements to reduce risk and strengthen neighborhoods in flood zones.

To pursue these objectives, the State has designed a program that incorporates lessons from past disasters; builds upon stakeholder input from agencies and relevant organizations across the local, State, and Federal levels; and leverages the experience of locally-based organizations to ensure the diverse needs of West Virginia's affected residents are addressed. Current economic challenges have been taken into account and the State aims to leverage private sector and other funding where possible. The State's focus is to provide assistance to the most vulnerable West Virginians quickly while ensuring accountability and proper use of funds. The State's strategy will balance speedy response with adequate planning and support equity, and take into account the distinct needs of different communities and abilities of those community members. For program operations, the State will maximize private and non-profit sector expertise and the deep experience of the housing infrastructure in West Virginia while putting appropriate accountability and oversight mechanisms in place.

Infrastructure Needs Assessment

West Virginia's Responses to Infrastructure Damage

The State's survey of the damage inflicted on infrastructure and the restoration thereof is ongoing. In conjunction with FEMA's Public Assistance Grant Program, the State is identifying and assessing damaged sites to develop cost estimates that quantify the scope of work and financial commitment required for the necessary infrastructure projects. A few examples of the State's response to the flooding are discussed below.

Emergency Response

Emergency response was critical for search and rescue and the basic health and welfare of citizens. A total of 570 National Guard troops were deployed to assist local jurisdictions to aid in emergency response. Several hundred rescue missions were completed to remove people from flooded homes. During this time, it was imperative that bridges, water treatment facilities, roads, as well as sewer and water were operating in rapid emergency recovery time. The death toll continued to rise while private citizens, police and other law enforcement and volunteers worked tirelessly to search for missing residents across the State after heavy rains flooded several towns. Hundreds of roads and bridges were washed away and thousands of homes were severely flooded leaving hundreds of people with no place to go. In Elkview, West Virginia, an estimated 500 individuals were stranded in a mall for almost three days due to the road entrance being washed away.²⁶

²⁶ <http://www.wlwt.com/article/hundreds-stuck-at-wv-shopping-center-after-road-washed-away/3566904>

West Virginia Rural Water Association's (WVRWA) began repairing wastewater treatment plants as soon as feasible and electrical equipment was repaired rapidly to get the plants operational again. Department of Transportation (DOT) and local jurisdictions worked closely with the U.S. Army Corps of Engineers (USACE) to clear away debris to ensure the safety of citizens.

Restoration Services

During and immediately after flooding damaged West Virginia, shelters were staged with assistance offered from over 400 American Red Cross volunteers in the most affected areas.²⁷ Additionally, one of West Virginia's most prized tourist attractions, The Greenbrier, was transformed overnight into a flood recovery shelter. The Greenbrier is a National Historic Landmark and world-class resort that has been welcoming guests from around the world since 1778, including presidents, international royalty, the famed Greenbrier PGA tournament, and NFL training teams. It housed 300 of the neediest victims who were now homeless and displaced due to the flooding. In all, a total of 17 shelters housing over 400 individuals were operational during and after the storm. The American Red Cross operated 8 of these shelters and other faith-based and local jurisdictions assisted with the others.

Emergency Supply

Immediately after the catastrophic flooding many nonprofit entities such as the Red Cross provided food, water, emergency supplies, and shelter. Emergency distribution sites were opened in the hardest hit communities to protect the health and safety of the population. The sites were staffed with an arrangement of individuals, including local and outside volunteers, the Salvation Army, and the National Guard.

Debris Removal

Flooding debris was more prominent once flood waters started to recede, resulting in the accumulation of debris on streets, sidewalks, and other public properties. Debris consisted of woody material, sand, street and building wreckage, and other objects deposited by the flood waters. Current FEMA Public Assistance Project Worksheet data indicates that there has been over \$20 million dollars' worth of debris removal completed due to the flooding. Debris clean-up is still underway and continues into 2017 with local jurisdictions and the USACE taking on the burden per FEMA.

Analysis of Unmet State Infrastructure Needs

Preliminary data provided by the FEMA Public Assistance Program indicates \$134 million in project costs have been approved across the 12 declared counties. The State expects this number to at least double in the coming months as new projects are approved and obligated, namely the reconstruction of five schools that were substantially damaged. Of the approved project costs, 75% will be funded by FEMA. The State is required to provide the remaining 25% of funds. In preparation for these costs, West Virginia's Legislature passed a law in September 2016 providing \$85 million purported to contribute to the non-federal local 25% match required for the PA program. If the State's PA obligated project costs exceed

\$253 million, then the match requirement will drop to 10% required from West Virginia. Below is a summary of the current PA obligated projects and estimates of additional projects to be obligated. The State is well on its way to



Image 19: Flood debris being removed off I-79's Clendenin Exit

²⁷ Flood Update from WVDHSEM 6/28/16

meeting the required minimum threshold to receive the lower 10% match requirement. The State estimates their share of all projects to be \$41.3 million if the 10% match requirement is granted.

Table 17: Infrastructure

<i>Category</i>	<i>Project Amount</i>	<i>Federal Share</i>	<i>State Share</i>
A - Debris Removal	\$ 20,675,209	\$ 15,596,491	\$ 5,078,718
B - Protective Measures	\$ 40,954,307	\$ 30,715,730	\$ 10,238,577
C - Roads & Bridges	\$ 29,586,833	\$ 22,190,125	\$ 7,396,708
E - Public Buildings	\$ 30,666,998	\$ 23,000,249	\$ 7,666,749
F - Public Utilities	\$ 5,922,803	\$ 4,442,103	\$ 1,480,701
G - Recreational or Other	\$ 5,538,728	\$ 4,154,046	\$ 1,384,682
Z - State Management	\$ 427,105	\$ 427,105	\$ 0
PA CURRENT PROJECTS GRAND TOTAL	\$ 133,771,983	\$ 100,525,849	\$ 33,246,134
Additional Roads and Bridges	\$ 26,413,167	\$ 19,809,876	\$ 6,603,292
Additional Public Utilities	\$ 94,077,197	\$ 70,557,898	\$ 23,519,299
Public Schools Estimate	\$ 130,000,000	\$ 97,500,000	\$ 32,500,000
Current Infrastructure Estimate	\$ 384,262,347	\$ 288,393,622	\$ 98,973,725
Reallocate as 10% State Share		\$ 57,639,352	\$ (57,639,352)
TOTAL ESTIMATED INFRASTRUCTURE UNMET NEED	\$ 384,262,347	\$ 346,032,974	\$ 41,334,373
TOTAL ESTIMATED INFRASTRUCTURE UNMET NEED INCLUDING 20% RESILIENCE COSTS*	\$ 384,262,347	\$ 346,032,974	\$ 49,601,247

**To calculate the Total Infrastructure Unmet Need including 20% Resilience Cost, the State added 20% (the industry standard cost of resiliency measures) to the calculated unmet need.*

Infrastructure Goals

West Virginia is committed to addressing its infrastructure needs and securing the health and stability of local communities and economies by helping to provide these essential services attract and retain businesses as well as residents.

Infrastructure objectives carried out through the FEMA PA program include:

- Potable water treatment and distribution systems
- Wastewater treatment and collection systems
- Storm water management
- Power or energy, electrical and gas (including motor fuel storage and distribution)
- Municipal and public services/works vehicles and equipment

- Law enforcement and emergency response
- Transportation and horizontal drainage
- Public buildings used for government, education, medical care, and a variety of public services
- Damage and Losses to businesses, residential structures, and other public use structures such as community meeting locations that frequently include religious worship/education facilities

The State continues to receive and analyze data regarding unmet needs stemming from the disaster. Accordingly, should additional unmet needs within the infrastructure sector be identified and the State need to address those remaining needs through a Substantial Amendment to its initial Action Plan, the State will develop and implement infrastructure programs with the following considerations in mind.

- The proposed mitigation measures will be integrated into rebuilding activities and the extent to which infrastructure activities will achieve objectives outlined in regionally or locally established plans and policies must be established.
- All infrastructure activities will be informed by a consideration of the costs and benefits of the project.
- The State will seek to ensure that infrastructure activities will avoid disproportionate impact on vulnerable communities and create opportunities to address economic inequities facing local communities.
- The State will align investments with other planned state or local capital improvements and infrastructure development efforts. Additionally, the State will work to foster the potential for additional infrastructure funding from multiple sources.
- The State will employ adaptable and reliable technologies to guard against premature obsolescence of infrastructure.

With the passage of the \$85 million bill from the West Virginia legislature, the State believes it is in good position to fully fund the required FEMA PA match, whether that be 25% or the lower 10% match. Because of the state funding already allocated to infrastructure through the FEMA PA program, WVDOC does not anticipate any additional infrastructure needs at this time.

Economic Needs Assessment

Background

In addition to the housing and infrastructure crises, the State estimates a \$9 million sales tax loss for July and August 2016 alone, mostly due to the cancellation of the famed Greenbrier Classic and the West Virginia State Fair. The total economic loss of these canceled events is expected to exceed \$22 million.²⁸ Impact to agriculture and conservation efforts exceeds \$6 million, while disaster unemployment claims could exceed \$3 million. Additionally, West Virginia's state parks sustained over \$2 million in damage with another \$8 million in stream debris clearance required.²⁹ It is estimated that twice that amount will be needed for stream restoration and bank stabilization. Before the flooding in June 2016, the state's economy had already experienced a significant downturn caused by the deterioration of the coal industry. The flood only worsened the already depleted financial resources of West Virginia. As a result, the state experienced a rise in unemployment rates in the months following the flood with estimates of over \$2 million in lost wages.³⁰

²⁸ <http://www.tristateupdate.com/story/33104084/back-in-business-greenbrier-county-business-owners-continue-to-salvage-their-livelihoods-while-hoping-to-welcome-tourists-again-soon>

²⁹ Interviews with agency heads at Department of Agriculture, Workforce West Virginia, and Division of Natural Resources

³⁰ Workforce WV Disaster Unemployment Claims 2nd Quarter 2016

Workforce

West Virginia's citizens have long prided themselves on their hard-working demeanor and commitment to manual labor jobs. For over a century the State has consisted of residents willing to work long hours in coal mines and factories that span Appalachia. Much of that work, however, has disappeared due to the extreme downturn in industry of such blue-collar jobs. West Virginians who once worked long hours in coal mines now find themselves jobless, with little hope for learning new trades and skills. Many of the coal mines that were once the lifeblood of the State are now shut down, a product of technological advances in automation and environmental regulation. Overall, more than 10,000 jobs have been lost in the past 10 years in the State, per the Bureau of Economic Analysis. Compared to 5 years ago, there are nearly 8,000 less jobs to be had in the mining industry (except oil and gas) alone.

Figure 25: West Virginia Labor Force

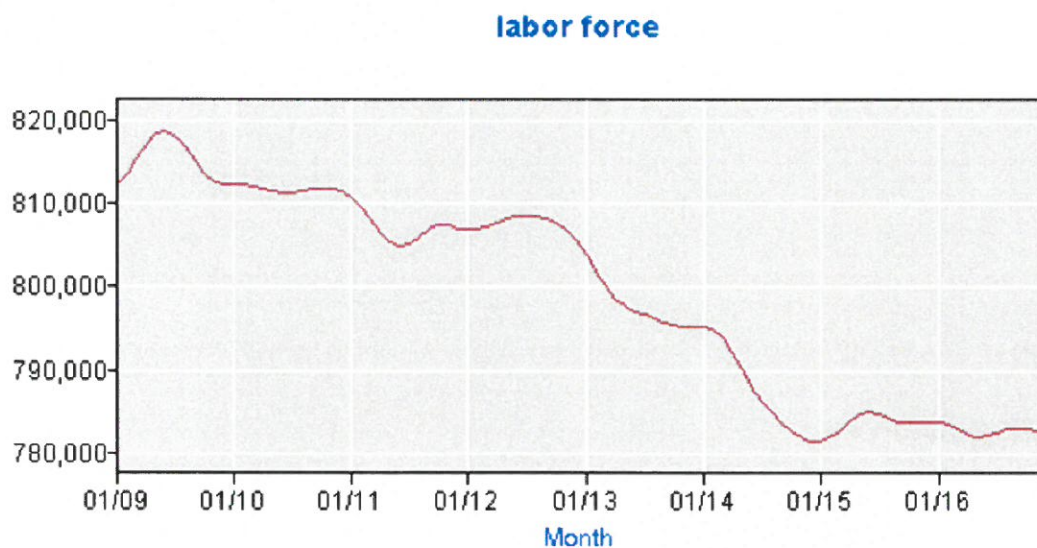
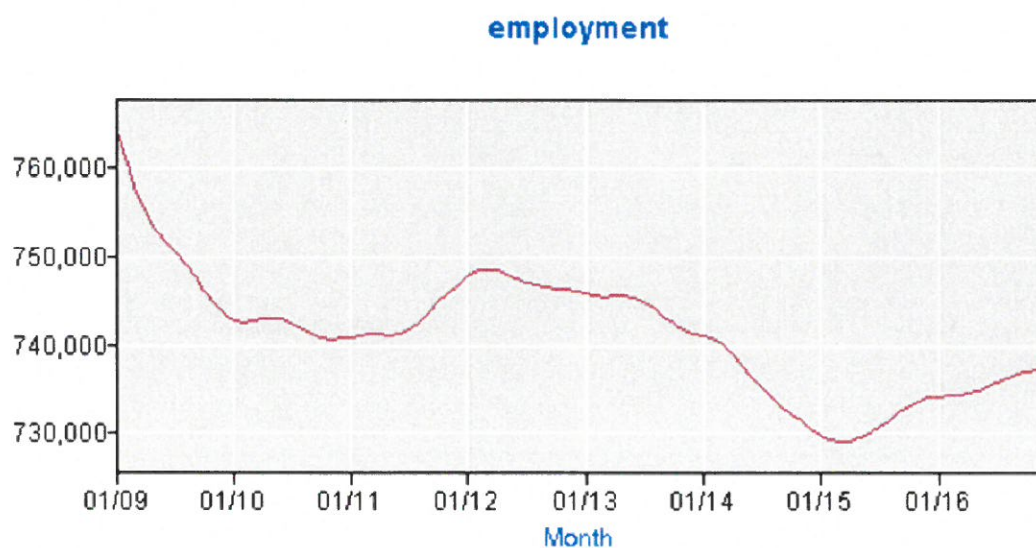


Figure 26: West Virginia Employment



Source: U.S. Bureau of Labor Statistics

Figure 27: Annual Coal Production

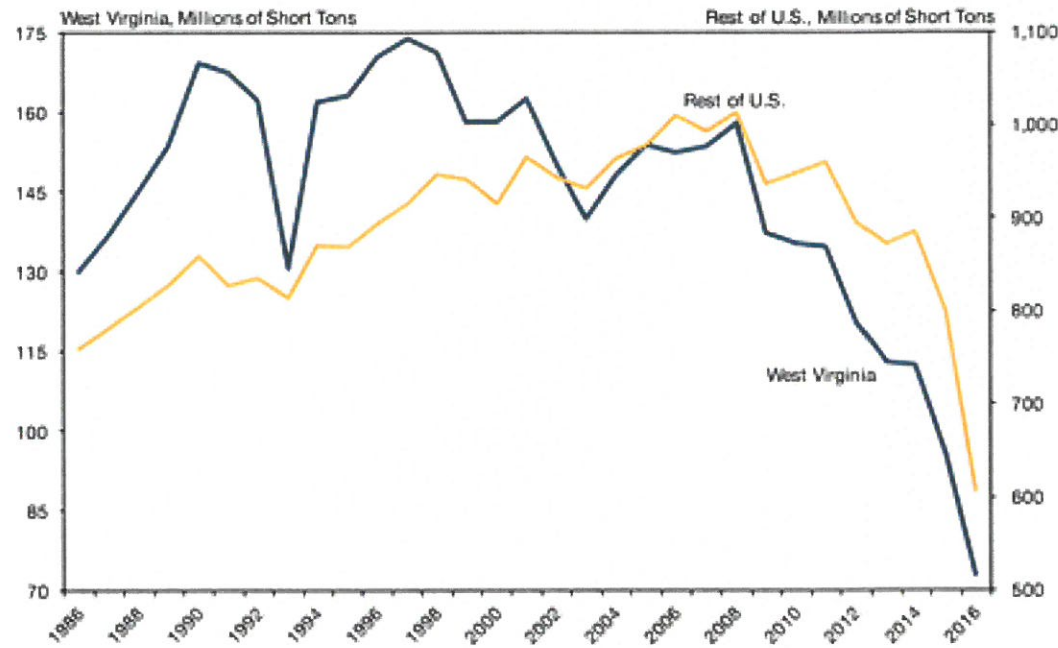
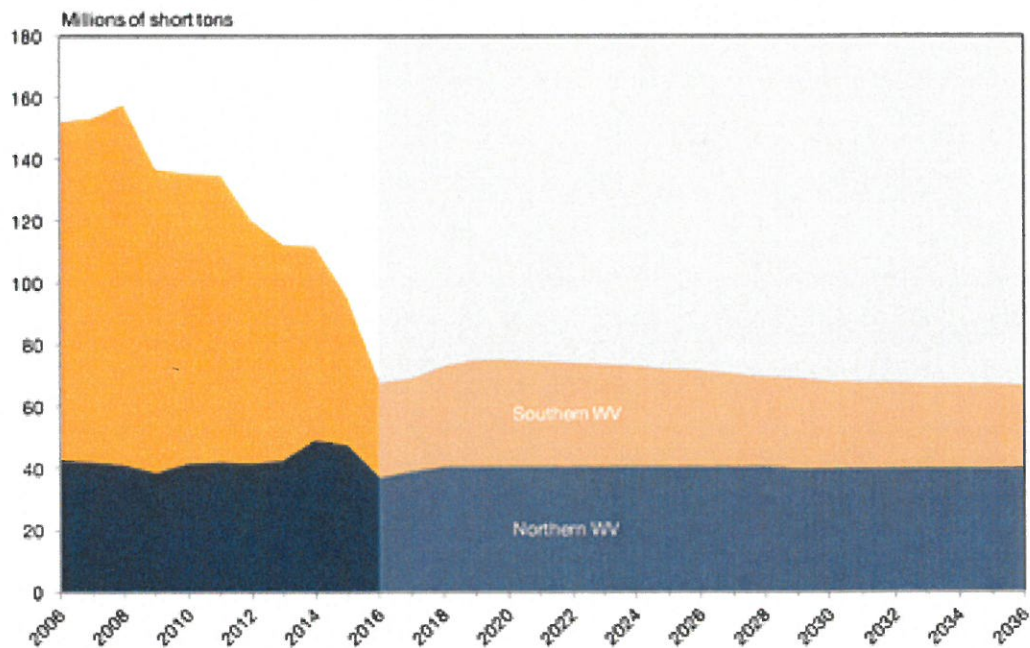


Figure 28: Coal Production Forecast



Source: WV Economic Outlook 2017

Education and the Economy

Nationally, West Virginia ranks near the bottom in almost every category of education. Secondary education was not a necessity for West Virginians in the past because of the opportunity for young men to enter the coal mining industry straight out of high school with good take-home pay rates. With coal mining jobs dissipating, West Virginians are being forced to adjust in a job market that offers few solutions. According to Forbes, West Virginia ranks as the least educated state in the nation. West Virginia possesses the lowest percentage of associates degree holders, bachelor's degree holders, professional degree holders and college experienced adults.

- Percent of adults with at least a bachelor's degree: 19.2%
- Percent of adults with at least a high school diploma: 85.2%

The lack of secondary education directly correlates to the high unemployment rate and loss of manual labor jobs.

Impact to the State's Economy

Significant losses were felt by the State's economy as a result of the 2016 flood. Many businesses experienced direct damage or destruction to buildings, equipment, inventory, and supplies, as well as indirect damage such as lack of access, all of which caused a loss of revenue or forced closure. Tourism within the state experienced significant decline due to the floods. According to The Register-Herald, by June of 2016 the number of visits and hotel stays had increased by 15 percent compared to years past. However, the numbers soon deviated due to the floods and by the end of 2016, the rates proved to be below 2015. The Convention and Visitors Bureau office in Oak Hill saw nearly 2,000 fewer guests pass through in 2016. Commercial rafting trips, which had been on the rise every year since 2007, dipped by almost 5,000 marking the lowest total since 2013.³¹

Workforce West Virginia reported over \$2 million in disaster related unemployment claim payments due to the flood. A summary of those claims is included below.

Table 18: Unemployment Claims

<i>County of Residence</i>	<i>Number of Claimants</i>	<i>2Q16 Reported Wages</i>	<i>Weeks Claimed</i>	<i>Average Weekly Wages 2Q16</i>	<i>Wages Lost</i>
Greenbrier	649	\$ 4,855,092	1,563	\$575	\$ 899,428
Kanawha	145	\$ 518,259	1,055	\$275	\$ 290,051
Nicholas	108	\$ 622,798	918	\$444	\$ 407,206
Monroe	62	\$ 443,590	108	\$550	\$ 59,438
Roane	35	\$ 110,709	173	\$243	\$ 42,093
Clay	29	\$ 82,903	170	\$220	\$ 37,383
Fayette	26	\$ 164,412	116	\$486	\$ 56,425
Webster	22	\$ 161,565	158	\$565	\$ 89,256
Other	130	\$ 956,835	333	\$542	\$ 167,562
TOTAL					\$ 2,048,842

³¹ http://www.register-herald.com/news/june-flood-affected-tourism-but-looks-bright/article_1ca0c4bb-9f29-55f1-8305-89d6c179443c.html

As many as 500 employees found themselves without a job in Elkhorn. The Crossings Plaza shopping center is still inaccessible because the access bridge was wiped out by flood waters. The Kmart within the shopping center has been unable to reopen due to the lack of access and was forced to lay off 69 employees.³² The fate of the shopping center is unknown at this time because of a bankruptcy filing submitted by the owner of Crossings Plaza.

Image 20: Collapsed bridge at the Crossing Mall in Elkhorn



West Virginia's Response to Impact to the State's Economy

In response to the flooding, former Governor Earl Ray Tomblin created RISE West Virginia, a small business grant program that awarded up to \$10,000 to businesses affected by the flood. The program was co-sponsored by West Virginia native and Intuit CEO and Chairman Brad Smith. RISE West Virginia was created to help the Mountain State's small businesses keep their doors open and their operations up and running after the June flood. Applicant criteria included being located in one of the affected counties, being in good standing with the state, having a verifiable business at the time of the June flooding and a plan for usage of the grant assistance. A total of 233 grants were awarded, with 2/3 given to affected businesses in Kanawha and Greenbrier counties.³³

As a result of flooding at The Greenbrier Resort, the owner and now-Governor Jim Justice offered the resort to citizens affected by the flood as a shelter option. More than 200 people stayed at The Greenbrier while new housing options were located for them. Hot meals were served and a total of 700 tetanus shots were given to impacted citizens.³⁴

Determining Unmet Economic Need

The economic unmet need analysis signifies the aggregate sum of unfulfilled business needs caused by, or directly related to the 2016 flood events, specifically reconstruction, rehabilitation, and hazard mitigation of real property. The State utilized all available data of substantial reliability to develop the economic unmet need analysis. This analysis has been used to shape a comprehensive recovery from the 2016 flood events and serve as the basis long-term recovery to its economy. The State has accounted for business losses including loss of revenue, debris removal, property damage or destruction, and mitigation, among other things.

³² <http://wvmetronews.com/2017/02/22/carper-crossings-mall-kmart-workers-laid-off/>

³³ <http://wvmetronews.com/2016/12/29/rise-west-virginia-grants-for-flood-recovery-top-1-8-million/>

³⁴ <http://wvsls.com/2016/06/27/greenbrier-resort-housing-more-than-200-now-homeless-as-flood-recovery-efforts-begin/>

The State relied upon data made available from the U.S. Small Business Administration (SBA) to determine the estimated unmet economic need across the declared counties. SBA received approximately 1,500 business loan applications, of which over 1,300 were never completed and processed for funding. Additionally, over 140 of those applications were withdrawn or declined. As a result of the analysis of unmet need the State performed for housing, it is assumed that the low application and approval rate of business loans is also a direct result of the depressed economic conditions in the state. Small business owners, in particular, have limited resources to take on additional debt and instead, made do without, relied upon limited NFIP payouts, or turned to the State's RISE West Virginia grant program.

To estimate the economic impact to local businesses across the SBA application population that never resulted in a loan, the State looked to the 101 businesses who did follow through with an application for a loan and observed an average verified loss of \$103,673 across all counties and industries. With 1,437 applications received, the State was able to estimate almost \$149 million in verified losses to affected businesses using this approach. The current SBA loan amount outstanding for this population is only \$9.8 million. Coupled with the RISE West Virginia grant funding of \$1.8 million and NFIP building claim payments of \$4.5 million, the State estimates a \$132.8 million remaining unmet economic need as illustrated below.

Table 19: Remaining Economic Unmet Need

VERIFIED LOSS OF SBA BUSINESS APPLICANT		
SBA Applicants with a Verified Loss	101	
Average Verified Loss	\$ 103,673	
Verified Loss of SBA Applicants with a Damage Assessment		\$ 10,470,973
SBA Applicants without a Verified Loss	1,336	
Average Verified Loss	\$ 103,673	
Estimated Verified Loss of SBA Applicants Without a Damage Assessment		\$ 138,507,128
Total Verified Loss of all SBA Business Applicants	1,437	\$ 148,978,101
TOTAL WEST VIRGINIA UNMET ECONOMIC NEED		
Total Verified Loss		\$ 148,978,101
NFIP Building Claim Payments to Businesses		\$ (4,531,162)
SBA Disaster Business Loans Current Amount		\$ (9,861,100)
Rise West Virginia Grant Program		\$ (1,800,000)
Total Unmet Economic Need		\$ 132,785,839
Total Economic Unmet Need including 20% Resilience Costs*		\$ 159,343,007

**To calculate the Total Unmet Economic Need including 20% Resilience Cost, the State added 20% (the industry standard cost of resiliency measures) to the calculated unmet need.*

Economic Revitalization Goals

With limited funding and an overwhelming unmet housing need, it is imperative upon the State to get residents, particularly those who rent, back into safe and sanitary housing as a precursor to realizing economic recovery. The State's Rental Assistance Program will serve a dual purpose by prioritizing safe, sanitary and affordable housing for the rental community as well as supporting the local economies of these markets.

Additionally, the State eventually hopes to assist areas within the declared counties who have little to no broadband service. Getting residents connected to broadband will empower local communities with information that is most helpful in times of recovery, such as job training and access to web-based education. Given the limited amount of funding, the State will not prioritize such activities with this allocation.

Indirect support for small businesses and jobs occurs from the various program investments. Specifically, program delivery will require the support of the local construction industry and labor pool. Local economies will be stimulated as jobs are returned which have since been suspended due to the disaster. During the implementation phase of its programs, the State will perform intentional outreach to its contracting community to ensure awareness of the economic opportunities created through its CDBG-DR programs. Section 3 business concerns and small businesses will be deliberately notified of the numerous opportunities. West Virginia's goal remains to enable recovery for all sectors.

PUBLIC SERVICES UNMET NEEDS

In July 2016, after the devastating June floods, FEMA deployed an Advance Evaluation Team (AET) to West Virginia to assess the damages from the 2016 severe storms, flooding, landslides, and mudslides. The report from the AET indicated that additional federal support was required. The additional support included the appointment of a Federal Disaster Recovery Coordinator (FDRC) to coordinate the recovery efforts and the activation of three Recovery Support Function (RSF) agencies and organizations: Community Planning and Capacity Building (CPCB), Economic Recovery, and Housing. FEMA deployed staff from the National Disaster Recovery Support (NDRS) cadre, an External Affairs Advisor and a Mitigation Advisor which, along with the RSF Field Coordinators, constituted the Interagency Recovery Coordination (IRC) group.

The IRC group collaborated with the state's recovery officers and key stakeholders to identify critical needs and gaps in the State's capacity to recovery. The IRC group, FEMA, WVDHSEM, and WVDOC held multiple Community Planning and Capacity Building meetings throughout the impacted areas. These meetings facilitated the identification of needs in all service areas handled by a government entity, such as the flooding of fire, police stations and other government buildings, which provide key public services to citizens as well as large-scale infrastructure projects that will need to be implemented to recover. This experienced team evaluated all aspects of potential needs within the public service sector.

The possible need of specific public services to complement the CDBG-DR activities was also considered. The Recovery Support Strategy (RSS) for DR-4273 serves as a coordination document between recovery efforts to assist with the recovery. This comprehensive report identifies 69 strategies that the State, RSF agencies and their partners can take to address the 15 identified recovery issues. After these collaborations, while ideal, the lack of public services complementing the proposed CDBG-DR activities was not identified by the IRC group, the communities or the RSS as a key recovery strategy which needed to be prioritized for an allocation of CDBG-DR funds.

The universal conclusion from these collaborations was that funding is not only a concern, but a severe handicap. In West Virginia, this fact is compounded by the fact that other state revenue streams to local government have declined given the downturn in the State's coal industry. Thus, the most critical needs within the public service sector were identified for prioritized funding through the IRC group, the State's stakeholders, the impacted communities and the FEMA Public Assistance Program. To date, all identified public service needs are being met through the FEMA PA program and, as referenced previously, West Virginia has already provided state funds for the required local match. The match funding will lessen the financial burden placed on the local communities and assist them to continue normal operations and address recovery needs.

Therefore, due to the limited funding available to address the full breadth of recovery needs, the state is not prioritizing funding to address the public service needs described above or the addition of new public service needs to be provided to complement its CDBG-DR programs.

RESILIENCY AND MITIGATION MEASURES

Over a recent period of 21 years (between 1996 and 2017), West Virginia suffered 27 major flooding events resulting in a federal disaster declaration. Given its long and well-documented history of flooding, specifically devastating to the most vulnerable areas, West Virginia is committed to intentionally implementing appropriate and cost effective resiliency measures through its CDBG-DR program.

Thus, in conducting its impact and unmet needs assessment, the State considered the additional costs associated with protecting housing and community investments from future disasters. Throughout its assistance to impacted residents, the State's programs will not only repair or replace lost housing, but will also invest resources in efforts that promise to mitigate damage from future disasters.

The State is mindful that such measures will add costs to its programs, but is confident that the mitigating efforts will reduce the cost of future damages. After examining industry standards and various costs associated with its previous Hazard Mitigation Grant Program mitigation activities, the State estimated twenty percent (20%) in additional resiliency costs to the ultimate unmet needs cost associated with each sector: housing, infrastructure and economic revitalization.

Specific resiliency solutions for housing units could include:

- elevating the first floor of habitable area;
- breakaway ground floor walls;
- reinforced roofs;
- retention basins;
- fire-safe landscaping;
- landscaped floodwalls; and,
- mold and mildew resistant products.

Although West Virginia's CDBG-DR allocation is being prioritized for housing needs given the limited amount of funds, if infrastructure activities are funded in the future, resiliency solutions could include, but are not limited to, the following:

- Raising facilities above base flood elevation;
- Having backup power generators for critical systems (water, sewer, etc.);
- Elevating critical systems;
- Provide retention basins, larger culverts, culvert debris guards;
- Provide erosion control solutions; and,
- Raising roadways.

Once West Virginia considered the amount of resiliency solutions that will be tied to housing and potential infrastructure projects, the amount of unmet need increased significantly.

IV. SOURCES OF FUNDING TO BE LEVERAGED & CDBG- DR AWARD

SOURCES OF FUNDING TO BE LEVERAGED

The CDBG-DR award of \$104 million to the State of West Virginia will be leveraged with other available funding and serve as a last resort source of funding for disaster recovery. Since the catastrophic flood events, the State has worked with HUD, FEMA, SBA, VOAAs, and numerous other organizations to identify sources of assistance available to aid with recovery efforts. The comprehensive allocation provided by the different funding sources will result in a thorough recovery effort by: 1) ensuring that a variety of recovery unmet needs are met; 2) providing flexibility to address short-term as well as long-term recovery needs 3) empowering communities to meet needs that would not likely be addressed with other funding sources; and 4) assisting communities to best leverage themselves to meet post disaster needs.

The State will continue its efforts to identify and leverage other federal and non-federal funding sources. Specifically, in response to the 2016 disaster, the State has seized on the opportunity to utilize existing relationships as well as create new partnerships with other federal and state agencies, corporations, foundations, nonprofits and other stakeholders as a means of utilizing all viable sources of funding to ensure a comprehensive recovery.

FEMA Funding

In total, FEMA has allotted the State of West Virginia over \$181 million to aid disaster recovery thus far. The funding consists of \$42 million for individuals and household assistance available through the FEMA Individual Assistance Program, \$5 million for case management activities, and approximately \$134 million available through the FEMA Public Assistance Program which will continue to grow in the coming months as new projects are approved and obligated.¹

Disaster Case Management

On November 23, 2016, it was announced by then-Governor Earl Ray Tomblin that West Virginia would receive \$5 million for disaster case management from FEMA. These funds will enable case managers to be placed across the state in areas affected by the June flooding. The case managers will aid individuals who are struggling with remaining unmet needs. “Dedicated case management work will play a significant role moving forward as individuals in our communities continue to heal, rebuild and recover. The federal government continues working together with the state in our long-term recovery process. And the state will continue working hand-in-hand with local communities to ensure all remaining needs are met”, stated then-Governor Tomblin in his November 23 press release.²

The case managers will develop and carry out individualized disaster recovery plans with timely goals for resources and services. Unmet needs may include basic immediate emergency needs such as food, clothing, shelter or first aid, as well as long-term needs such as financial, physical, or emotional well-being. The Bureau for Behavioral Health and Health Facilities at the West Virginia Department of Health and Human Resources (DHHR) is overseeing the grant, in collaboration with the State’s Division of Homeland Security and Emergency Management. The casework process includes an assessment of the survivor’s verified disaster-caused unmet needs; development of a goal-oriented plan that outlines the steps necessary to achieve recovery; organization and coordination of information on available resources that match the disaster-caused need; and monitoring of progress toward reaching the recovery plan goals.

¹ <https://www.fema.gov/disaster/4273>

² Governor Earl Ray Tomblin 11/23/16 press release

WVDOC will utilize these case managers for the CDBG-DR housing programs. Additionally, these case managers will be trained alongside additional state-hired case managers to assist with delivering the disaster housing programs to affected populations. They will assist applicants with the application process and guide applicants through questions they may have about program eligibility and requirements. The State will assign each applicant to a case manager to assist the applicant through the entire program.

FEMA Individual & Household Assistance

FEMA has approved \$42 million in individual assistance (IA) for household and other programs. Nearly 9,000 applications were submitted with nearly 5,000 households approved for assistance. Over \$35 million of the assistance was granted for housing assistance, with another \$6.5 million going to other needs. According to FEMA data, the average FEMA IHP grant was less than \$9,000 per applicant.³

FEMA Public Assistance

The Public Assistance Program provides grants to state, local, and federally recognized tribal governments and certain private non-profit entities to assist them with the response to and recovery from disasters. Specifically, the program aids with debris removal, emergency protective measures, and permanent restoration of infrastructure. FEMA has obligated \$134 million in Public Assistance to West Virginia thus far. The current funds obligated of \$134 million is expected to grow to as much as \$500 million as damage assessments are finalized and new projects are approved.⁴

FEMA Public Assistance State Match

The State of West Virginia's Legislature passed flood relief legislation in September 2016 to provide \$85,000,000 for the state's share of the PA match. The bill appropriated \$21 million from lottery reserves, \$9 million from an unappropriated surplus from the previous fiscal year, and \$55 million from the state's Rainy Day Fund, and was passed on a vote of 92-1.⁵

HUD CDBG-DR

The Department of Housing and Urban Development has awarded West Virginia approximately \$104 million in CDBG-DR funds. West Virginia's CDBG-DR Award will address remaining unmet needs existing even after assistance provided by other federal and state sources. These funds will focus primarily on housing activities, including housing repair, replacement, reconstruction, and assistance to landlords within the most impacted and distressed areas.

Small Business Administration

The U.S. Small Business Administration has approved home and business disaster loans totaling nearly \$40 million for the flood events so far.⁶ Per the SBA's July 2016 press release, businesses and private nonprofit organizations may borrow up to \$2 million to repair or replace disaster damaged or destroyed real estate, machinery and equipment, inventory, and other business assets. For small businesses, small agricultural cooperatives, small businesses engaged in aquaculture and most private nonprofit organizations, the SBA offers Economic Injury Disaster Loans to help meet working capital needs caused by the disaster. Economic Injury Disaster Loan assistance is available regardless of whether the business suffered any physical property damage.

³ FEMA IHP data set for DR-4273

⁴ FEMA PA data set for DR-4273

⁵ <http://wvpublic.org/post/wva-house-approves-85-million-flood-relief-bill#stream/0>

⁶ SBA Disaster Home and Business Loan data set

Disaster loans up to \$200,000 are available to homeowners to repair or replace disaster damaged or destroyed real estate. Homeowners and renters are eligible for up to \$40,000 to repair or replace disaster damaged or destroyed personal property. West Virginia will capitalize on this available assistance for unmet needs. These funds will provide valuable leverage to the CDBG-DR funds.

Other Funding

Other public funding of nearly \$31.5 million has been made available in the wake of the flood and is made up of six different sources of funding, including the following:

Federal Highway Administration (FHA)

As of April 4, 2017, it was announced that the West Virginia Department of Transportation will receive an additional 14 million dollars. The monies stem from a grant from the Federal Highway Administration and shall be used to repair and rebuild federal-aid highways and roads existing on federal lands.⁷

RISE West Virginia (RISE)

RISE is a public-privately funded grant program which set aside \$2 million for assistance to small businesses. The program is overseen by the West Virginia Chamber of Commerce Foundation. Grants of up to \$10,000 are awarded on the basis of need and recommendations from a review committee. Project considerations include long term viability, contributions to building and sustaining local economies, number of jobs retained/created, and ownership's determination to rebuild.⁸

Emergency Relief (ER)

The Federal Highway Administration (FHWA) granted \$5.7 million in Emergency Repairs funding to the state. The funds will solely aid repairs of roads, highways, and bridges.⁹

Disaster SNAP (D-SNAP)

The Disaster-Supplemental Nutrition Assistance Program (D-SNAP) is funded by the U.S. Department of Agriculture (USDA) and provided over \$4.5 million for nutrition assistance to eligible residents of West Virginia. The assistance is made available to low-income individuals and families that may or may not have previously been SNAP members.¹⁰

Rebuild West Virginia

Rebuild West Virginia was established by the West Virginia Housing Development Fund to provide assistance to owner occupied residences that were damaged or destroyed as a result of the flood. The program has made \$1.85 million in funding available to families who were unable to qualify for sufficient federally funded resources to restore their home and whose household income, as adjusted for family size, meets HUD's HOME Investment Partnership Program (HOME) income limits.¹¹

National Dislocated Workers Grant

The U.S. Department of Labor provided \$3.5 million in grant money to provide 250 temporary jobs for flood disaster clean-up activities via the National Dislocated Workers Grant, formerly known as National Emergency Grants (NEG). This program is administered through WorkForce West Virginia.

⁷ http://www.herald-dispatch.com/news/federal-funds-to-repair-flood-damaged-roads/article_954ed9bc-661b-5949-b86d-0181c9c4336c.html

⁸ <http://wvflood.com/RISE/Pages/default.aspx>

⁹ <https://www.fhwa.dot.gov/pressroom/fhwa1638.cfm>

¹⁰ <http://wvpublic.org/post/disaster-snap-benefits-provide-more-45-million-nutrition-assistance-flood-victims#stream/0>

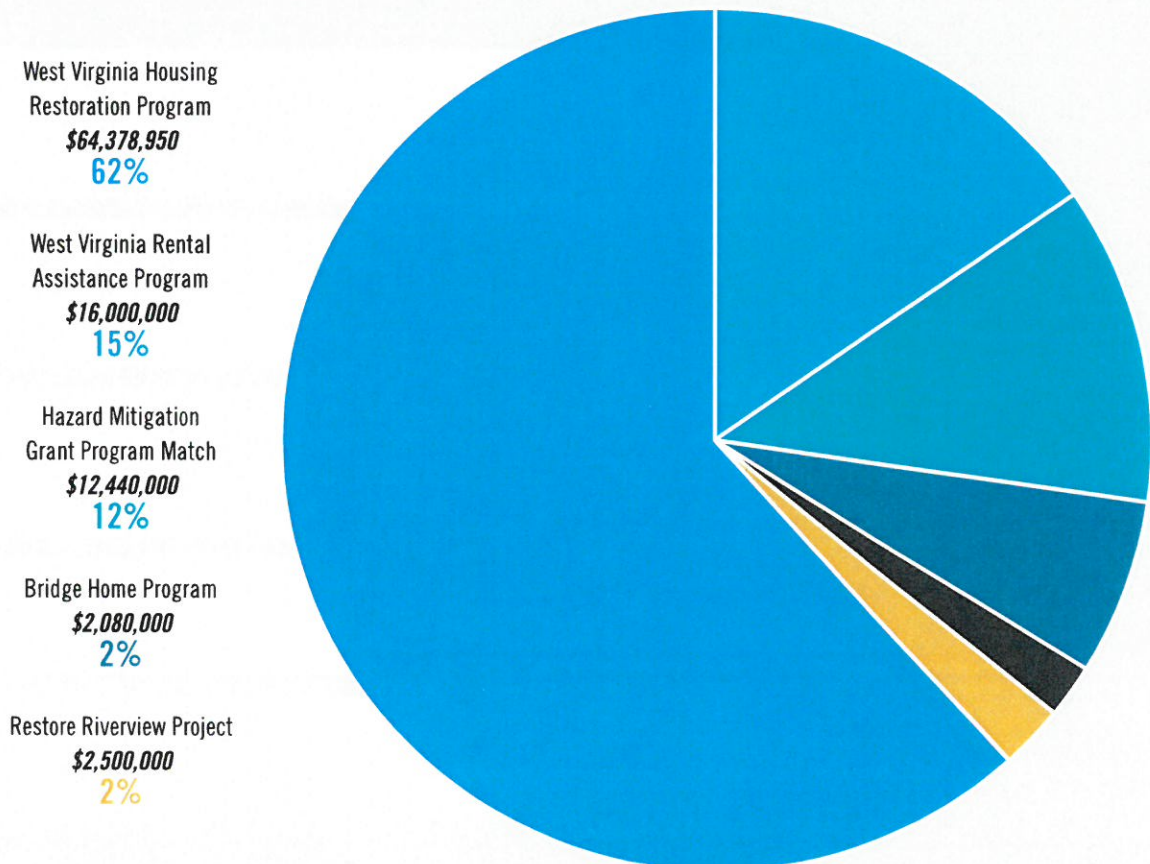
¹¹ <https://www.wvhdf.com/programs/rebuild-west-virginia>

Total Leveraged Funding

The total funding available to the state of West Virginia through various federal and state sources, coupled with the extensive volunteer and non-profit effort throughout the affected counties, places West Virginia in a good position for a targeted recovery for the most vulnerable residents. West Virginia's dedication to recovery is evident given its early commitment of state funds to recovery needs. All West Virginians are motivated to effectively recover from this flood and are dedicated to seeing their state rebound better and stronger as a result.

West Virginia will use the majority of its CDBG-DR award to meet some of its most pressing unmet housing needs throughout the declared counties. The State will implement a housing program that will assist low-to-moderate income homeowners with repair and rehabilitation costs of their primary residences that were not covered by FEMA, SBA, private insurance, or other available sources. It is imperative to see West Virginians made whole again, starting first and foremost with safe and secure housing. Additionally, West Virginia will allocate 15% of its award to assist rental property owners with repair costs of rental units which were occupied by low-to-moderate income tenants and damaged by the flood. It is vital to make these units available in the most damaged and vulnerable areas to low-to-moderate income tenants again. Additional programs which will support housing in the hardest hit communities include a Hazard Mitigation Grant Program Match and a residential bridge repair program. Additionally, the State will restore a multi-use property in Clendenin. The State intends to spend the remainder of its award on planning and administration activities.

Figure 29: Program Allocation



V. METHOD OF DISTRIBUTION & CONNECTION TO UNMET NEED

West Virginia will directly implement all programs funded by the CDBG-DR award. Depending on a continued assessment of unmet needs and additional funding, the State may allocate funds to subrecipients through any substantial Action Plan Amendments.

ADMINISTERING ENTITY

The State's Department of Commerce has been designated by Governor Jim Justice as West Virginia's responsible entity and lead agency for administering the 2016 CDBG-DR Award. Secretary H. Wood Thrasher was appointed by Governor Justice to serve as the Secretary of the Department of Commerce and in this role, he answers directly to the Office of the Governor. The West Virginia Development Office (WVDO), an agency within WVDOC, will be responsible for the implementation and oversight of all program activities stemming from the 2016 CDBG-DR Award.

The WVDO has extensive experience in successfully administering CDBG funded projects as its team administers the state's annual CDBG program. Since 2007 the WVDO has managed over \$148 million in CDBG funding benefiting over 230,000 persons.¹ And, CDBG is not the only HUD program successfully administered by WVDO. Additionally, the WVDO has administered \$104 million in Emergency Shelter, ESG, CoC, HOME, HOPWA, and NSP funds since 2007.²

Because of the WVDO's successful experience in administering CDBG program dollars in accordance with HUD guidelines, the State believes the agency's knowledge perfectly positions them to oversee the CDBG-DR program. The management staff in this office is skilled in administering programs that advance the mission of HUD. They hold the necessary skillset that is required for designing programs that are compliant with federal guidelines and they are committed to delivering a CDBG-DR recovery program which will make the state more resilient following this devastating flood.

Although the WVDOC is the lead agency for the administration and management of the 2016 Award, other State, quasi-state and intergovernmental agencies will have key roles in the implementation of the various CDBG-DR program activities. WVDO will enter into Memoranda of Agreement with each entity to set forth the terms, conditions and specific roles each agency will have in the program. The Regional Planning and Development Councils and West Virginia VOAD will assist with the implementation of multiple disaster recovery programs including the WV Housing Restoration Program, WV Rental Assistance Program, and Bridge Home Programs. It is also anticipated that the State will leverage existing housing expertise within the West Virginia Housing Development Fund to administer the housing programs. Finally, the West Virginia Department of Homeland Security and Emergency Management will partner with WVDOC in carrying out all program activities under the HMGP/CDBG-DR Coordinated Match Program.

West Virginia will focus most of its \$104,280,000 award of CDBG-DR funds on the most urgent housing needs in the areas hit hardest by the June floods. In accordance with the requirements of the 2017 Appropriations Act, West Virginia will deliver programs that fund eligible activities in accordance with the Housing and Community Development Act and meet a HUD national objective. Additionally, the State will expend 80% of the funds in

¹ https://www.hudexchange.info/programs/cdbg/cdbg-accomplishment-reports/?filter_year=&filter_state=WV&filter_grantee=AAAA-WV&program=CDBG&group=Accomp

² https://www.hudexchange.info/grantees/allocations-awards/?filter_year=&filter_program=&filter_state=WV&filter_coc=1290

the HUD-identified most impacted and distressed areas of Greenbrier, Kanawha, Clay and Nicholas Counties as required by the Federal Register Notice.³ The State intends to meet and even exceed the requirement that 70% of the funds will serve low-to-moderate income populations through the use of the SoVI® method and prioritization based on the areas that are defined by high and medium social vulnerability. Given the significant unmet need for repairs or replacement housing, the State has designed a single-family housing repair program and a rental housing repair program which account for over 75% of the total CDBG-DR award and will return affected residents to safe, decent, and affordable housing. Additional programs include a project to restore and increase rental stock in Kanawha County, a bridge repair program, and a coordinated match program. Funds will also be used for administration of the programs and for long-term disaster recovery planning. The budget and justifications specific to each sector are described below.

Table 20: Program Budget

PROGRAM BUDGET			
HOUSING	West Virginia Housing Restoration Program	\$ 64,378,950	62%
	West Virginia Rental Assistance Program	\$ 16,000,000	15%
	Hazard Mitigation Grant Program Match	\$ 12,440,000	12%
	Bridge Home Program	\$ 2,080,000	2%
	Restore Riverview Project	\$ 2,500,000	2%
Total Housing		\$ 97,398,950	93%
State Planning and Administration		\$ 6,881,050	7%
TOTAL BUDGET		\$ 104,280,000	100%

HOUSING RECOVERY (\$99.8 MILLION)

Given the extraordinary \$295 million remaining unmet need amount in the State's housing sector, West Virginia is allocating \$64,378,950 towards a single-family owner-occupied housing repair program with a focus on prioritizing low-to-moderate income households who received a high amount of flood damage. The State has been deliberate in calculating the unmet housing need in the affected areas and designing programs which seek to meet those specific needs. Given the limited amount of funding, the State utilized SoVI® scores of affected areas to pinpoint the most vulnerable residents with an unmet housing need; the priorities of the housing programs will ensure these populations are served first. West Virginia believes that providing funding to the most vulnerable populations first will be the most effective recovery model to deliver with limited funds.

The State is allocating \$16,000,000 for a rental housing repair program with a focus on prioritizing those properties that are occupied by low-to-moderate income tenants and received a high amount of flood damage. Utilizing FEMA renter data and interviewing local housing authorities confirms the post-flood need for safe, sanitary, affordable rental housing, particular Section 8 housing. Thus, the State will prioritize funding to rental property owners with low-to-moderate income tenants and Section 8 recipient households. Again, by targeting recovery efforts to the most vulnerable, the State believes it will deliver the most effective program with the limited funds available to it.

³ The State submitted , and HUD approved, a request to add Clay and Nicholas Counties to the HUD-determined MID so those heavily impacted areas can be assisted with greater amounts of funding.

The State will designate \$12,440,000 as the State's required non-federal local match required under FEMA's Hazard Mitigation Grant Program. Through an extensive outreach initiative, the State has identified eligible households and will coordinate all aspects of administering the programs including applicant intake, case management and construction work, where applicable.

The State is allocating \$2,080,000 to a bridge repair program which will replace home access bridges washed away during the flood. These bridges provide the primary (and in most cases the only) access to homes of flood victims. Given the ineligibility of these bridges to be repaired with other federal funds such as FEMA Public Assistance, yet the critical safety and health concerns connected to this need, the State believes it is critical to use this CDBG-DR allocation to address some of this unmet need within its housing sector. The State will leverage the WV VOAD's experience with delivering previous similar programs for carrying out the rebuilding efforts.

Finally, given the critical need for affordable rental housing and job creation in the town of Clendenin located in Kanawha County, the State is allocating \$2,500,000 to the Restore Riverview Project. This mixed-use project will rehabilitate and restore rental units and possibly build out space to function as a training space and office space. The priority will be to create LMI training positions and jobs through the use of the training/office space and provide LMI housing through all rental units developed under this project. This complete strategy will both restore housing, increase the available rental stock, and provide support for the local economy desperate for rehabilitation after the disaster.

ECONOMIC REVITALIZATION

The State is not allocating funds for economic revitalization at this time. The Restore Riverview Project, while primarily a project supporting housing recovery, could potentially create jobs in the Clendenin community. Given the extraordinary remaining unmet need within the housing sector and the vulnerabilities of the impacted communities, the State is prioritizing the provision of safe, decent, and affordable housing to its most impacted and distressed communities. If additional CDBG-DR funds are made available in the future, the State will reassess its unmet needs for housing and propose economic revitalization activities if reasonable.

To facilitate economic recovery, thus far, West Virginia has relied on loans to its homeowners and businesses available through the Small Business Administration as discussed in detail in this Action Plan. Other programs providing aid to this sector have been payouts received by businesses through the National Flood Insurance Program and other State programs such as the RISE grants (\$1.8 million) to resolve current economic revitalization needs. The State is aware of the remaining unmet needs related to economic revitalization; however, the tremendous amount of remaining unmet housing need within the impacted communities has been prioritized for the CDBG-DR funds. The State will continue to seek other funds on behalf of its business communities in order to further economic recovery specifically from the June 2016 disaster. Finally, should the remaining housing needs be served, and CDBG-DR funds remain available for use, the State will re-assess the economic needs of its most impacted and distressed communities to determine if remaining funds can meet those critical needs.

INFRASTRUCTURE ACTIVITIES

Given the eligibility of most infrastructure activities under the FEMA PA program and the \$85 million allocation of state funds already appropriated by the legislature for the required 25% match, the WVDOT is not allocating CDBG-DR funds for infrastructure activities at this time. Other state resources and the FEMA PA program are

addressing remaining infrastructure needs such as the repair of roads and bridges, water control facilities, repair and replacement of public buildings and equipment. Specifically, the West Virginia Division of Highways is working closely with FEMA and WVDHSEM to account for all damage that may be eligible for Public Assistance (PA). Also, the State's School Building Authority has worked closely with FEMA to address the destruction of the schools and this effort continues. Accordingly, the State believes that prioritizing the provision of safe, decent, and affordable housing to its most impacted and distressed communities with CDBG-DR dollars will compliment the eligible FEMA PA infrastructure projects in the most impacted local jurisdictions by allowing citizens to return to their homes. The WVDOC will coordinate with DHSEM any future anticipated unmet infrastructure needs not eligible for FEMA PA funding and if required, propose the usage of CDBG-DR dollars at that time, if reasonable.

PLANNING AND ADMINISTRATION ACTIVITIES (\$6.8 MILLION)

The State will reserve \$6,881,050 of its award for planning and administrative activities. A priority for this allocation is the development of a disaster recovery and response plan that addresses long-term recovery and pre- and post-disaster hazard mitigation.

PROPORTIONALITY OF CDBG-DR AWARD TO UNMET NEEDS

The following table demonstrates the proportionate allocation of CDBG-DR funds relative to areas and categories of unmet need. These figures are based upon best available data and projections for unmet need. For more information on these amounts, please see the assessment of unmet need included in this Action Plan.

Table 21: Allocation of CDBG-DR funds by category

<i>Category</i>	<i>Allocation by Category</i>	<i>% of Total Allocation</i>	<i>Unmet Need by Category</i>	<i>% of Total Unmet Need</i>
Housing	\$97.4m	93%	\$295m	33%
Economic Revitalization	\$0	0%	\$133m	0%
Infrastructure	\$0	0%	\$33.5	0%
Planning and Administration	\$6.8m	7%	N/A	N/A
TOTAL	\$104.2m	100%	\$461.5m	34%

CDBG-DR ELIGIBLE ACTIVITIES NOT UNDERTAKEN

The State has taken into consideration all CDBG-DR eligible activities allowed under the Housing and Community Development Act of 1974 when designing its CDBG-DR programs. With limited funds available, the State understands that it must be intentional in its use of the CDBG-DR award to ensure that the most critical needs of its citizens are addressed first. Consistent with the results of its unmet needs assessments and the requirements of the Award, West Virginia primarily considered its unmet housing recovery needs and is committed to delivering a rapid single-family housing repair program and small rental program that prioritizes funding for the most vulnerable affected populations. The State expects to serve approximately 1,500 households with the CDBG-DR funding.

If and when additional funding becomes available to assist West Virginia with its flood recovery, other eligible activities will be considered only after all unmet housing needs and those activities which support housing recovery are addressed. The State has outlined all potential eligible activities below and explained in detail why certain activities were not undertaken at this time.

The activities listed below were considered but will not be funded at this time due to the following reasons: 1) Data related to DR 4273 did not establish an unmet need, 2) The State identified an unmet need; however, the need is being addressed through other federal, state and/or local programs, 3) The amount of critical need within the housing sector is being prioritized over the identified unmet need to ensure the provision of safe and sanitary housing to impacted communities.

- Loss of Rental Income Payments
- Interim mortgage assistance
- Financing assistance
- Preservation or Restoration of Historic Sites
- Beautification of Urban Land
- Conservation of Open Spaces
- Conservation of Natural Resources
- Conservation of Scenic Areas
- Guidance of Urban Development
- Provision of Recreational Opportunities
- Provision of Public Works
- Repair of Dams and Levees
- Provision of Public Facilities
- Provision of Public Improvements
- Construction of public works, facilities, & site or other improvements
- Reconstruction of public works, facilities, & site or other improvements
- Installation of public works, facilities, & site or other improvements
- Loans and grants to small businesses
- Improvements to commercial/retail districts
- Relocation payments & assistance for displaced businesses, organizations, & farm operations
- Comprehensive community development
- Provision of public services
- Technical assistance

VI. PROGRAMS

HOUSING OVERVIEW

Based on the unmet needs assessment, realizing the large amount of unmet needs remaining in the housing sector, the State will fund two separate programs which focus activities on housing repair and rehabilitation. To maximize the impact of these programs, WVDO will synthesize coordination across the state's agencies yet function as the central point of the effort. In this way, the State's program will leverage scale, where possible, while providing solutions tailored for the different needs of homeowners or landlords in need of assistance and capitalizing on the institutional knowledge within the network of partner agencies (e.g., by geography, building type, and size). Specifically, the State will create the following core programs to provide assistance to those who sustained damage to their homes from the floods:

- **West Virginia Housing Restoration Program (WV-HRP):** This program will provide grants for repair, rehabilitation, or reconstruction of single-family owner-occupied homes that have been destroyed or damaged by flooding. Assistance will incorporate resilience measures for homes that are destroyed or have substantial damage.
- **West Virginia Rental Assistance Program (WV-RAP):** This program will provide grants for reconstruction or rehabilitation of rental property that has been destroyed or damaged by flooding. Assistance will incorporate resilience measures for property that is destroyed or has substantial damage.

Definitions, eligibility requirements, and other specifics for each of these programs are described below. The State will prioritize assistance to homeless populations or other populations with special needs, provide additional program paths as rehabilitation and redevelopment options through the State and, funds permitting, acquisition for redevelopment and will consider further program activities described in this Action Plan to enhance investment in impacted areas listed, subject to sufficient funds.

Summary of Program Priorities

The CDBG-DR funding will allow the State to serve its targeted population, as follows:

- **Owner-occupied housing:** With more than \$64 million allocated for owner-occupied housing, the State will prioritize assistance for those applicants who reside in high and medium SoVI® areas. Accordingly, the State's focus will be to assist up to 700 units of low-to-moderate-income homeowners whose primary residences were destroyed or experienced major damage.
- **Tenant-occupied housing:** The State will invest an additional \$16 million in its affordable rental housing stock to rehabilitate and enhance the resiliency of approximately 300 units of housing for low-to-moderate-income renters. The State will prioritize assistance for those properties located in high and medium SoVI® areas.

These priorities will be addressed through the various paths described below. These program paths will share unified program elements:

- Coordinated outreach;
- Application intake procedures;
- Geographic areas to be served; and
- Program administration.

Coordinated Outreach

The State's housing recovery program will have a common outreach strategy, executed by the WVDO in coordination with stakeholders, most notably the Long-Term Recovery Committees, the Regional Planning and Development Councils, and the West Virginia VOAD. The State will also leverage its relationship with the West Virginia Army National Guard with well-established ties to the affected communities. Additionally, the housing program will have a single branding that will be leveraged in all its communication and outreach activities. Public meetings were held in two of the most affected counties, Kanawha and Greenbrier, on weekday evenings to present the published Action Plan and strategy for long-term recovery to the citizenry. A copy of the presentation provided to the public at these meetings as well as public comments received at these meetings will be included in the Appendices (See Appendix A and B respectively) of this Action Plan upon submission to HUD. Directors with the WVDO will attend and provide information regarding each program to specifically inform the communities about opportunities for recovery assistance. Other state and local officials involved in recovery efforts throughout the state will also be invited to attend and speak.

Intake Procedures

A single program management entity under the direction of the State will oversee intake and processing of all applications to both housing programs. All communications with applicants will occur via assigned case managers and intake support staff to ensure that each applicant keeps a single point of contact throughout their recovery. Intake procedures will be updated regularly as program implementation progresses, remaining nimble to applicant barriers.

Geographic Areas to be Served

The program will primarily serve high and medium SoVI® areas in all of the declared counties in West Virginia that were affected by the June floods with 80% of the award expended in the most impacted and distressed areas identified by HUD. The State will prioritize web-based and mobile intake operations to ensure that services are delivered quickly to the most impacted areas. Other impacted populations will be allowed to apply. However, funding will first serve those that are especially vulnerable per the State's SoVI® analysis.

Affirmatively Furthering Fair Housing

The State's housing programs have been reviewed to ensure the activities will affirmatively further fair housing. Such review included an assessment of a proposed priority area's demography, socioeconomic characteristics, housing configuration and needs, educational, transportation, and health care opportunities, environmental hazards or concerns, and all other factors material to the AFFH determination. Applications should show and will be reviewed to determine whether projects are likely to lessen area racial, ethnic, and low-income concentrations, and/or promote affordable housing in low-poverty, non-minority areas in response to natural hazard-related impacts. Any subrecipients and partner agency will certify that they will affirmatively further fair housing (AFFH) in their agreements with WVDOC, and will receive fair housing training and technical assistance in carrying out all CDBG-DR activities to ensure fair housing obligations are met.

Basis for Calculating Housing Assistance Awards

If eligible and awarded, housing assistance award calculations may be based on the following factors:

1. A review of all funding received by the Applicant from any source to calculate the total previous assistance received by the Applicant and to ensure no Duplication of Benefits (DOB);¹
2. Damage/scope of project work needed; and,
3. Pre-disaster housing unit value.

Housing assistance awards will be determined after factoring in the inputs listed above, subtracting any unaccounted for duplication of benefit, and then factoring in the pre-determined program assistance maximums that apply to the particular housing assistance activities to be used. Funds qualified as DOB may be required to be placed in escrow while assistance is provided.

Awards may include expenses for additional related costs such as elevation, insurance, ADA modifications or emergency repair of water or sewer connections. An award may include assistance to pay for a defined period (e.g. 1-2 years) of flood insurance premiums for eligible program applicants. Such parameters to determine eligibility for assistance with flood insurance premiums shall be further defined in the State's policies and procedures. Cost effective energy measures and improvements that meet Housing Quality Standards, especially those improvements which add enhanced resilience, such as elevation of major electrical components, roof-strapping, and other items are also eligible. Lead-based paint abatement, asbestos abatement, or other remediation components shall also be eligible.

It is possible that, upon review of an application and the completion of a damage assessment and estimated scope of repair will be determined as not suitable for rehabilitation. If a damage assessment or scope of repair estimation determines that the rehabilitation of a structure will exceed the pre-market value of the home (including 20% of the pre-market value for resiliency measures as necessary), then the structure shall be deemed "Not Suitable for Rehabilitation." In this case, a more cost effective type of assistance will be offered to the applicant such as, but not limited to, reconstruction. Additionally, if the structure is considered to be "blighted," it will be assumed that such conditions could expose persons to risks, dangers or unsanitary conditions and, thus, unfit for habitation. In this case, the structure shall be deemed "Not Suitable for Rehabilitation." A blighted structure is any structure that contains deterioration which poses a threat to the health & safety of the inhabitants and/or the surrounding community.

Elevations

Elevations will be included for Applicants that meet requirements determined by the program, including substantially damaged properties in the floodplain. Elevation will be evaluated on a case by case basis. Elevations will not be conducted on properties outside of the floodplain, with the possible exception where elevation is required by local ordinance. WVDOC will follow HUD guidance to ensure all structures, defined at 44 CFR 59.1, designed principally for residential use and located in the 1 percent annual (or 100-year) floodplain, that receive

¹ DOB will be further defined in the State's policies and procedures. Although the construction contract will be held by the State, the Applicant will also enter into a grant agreement with the State requiring the performance of a DOB calculation to determine assistance available.

assistance for new construction, repair of substantial damage, or substantial improvement, as defined at 24 CFR 55.2(b)(10), will be elevated with the lowest floor at least two feet above the 1 percent annual floodplain elevation. Thus, awards may include expenses for additional related costs such as elevation. Residential structures with no dwelling units and no residents below two feet above the 1 percent annual floodplain will be elevated or flood-proofed in accordance with FEMA flood-proofing standards at 44 CFR 60.3(c)(3)(ii) or successor standard, up to at least two feet above the 1 percent annual floodplain.

Cost Effective

West Virginia will utilize various sources of information to evaluate the cost effectiveness of the assistance for each applicant under consideration. WVDO will consider the prior costs of buyouts and acquisition activities associated with WVDHSEM's Hazard Mitigation Grant Program as well as WVDO's NSP buyout program costs. As set forth above in the details regarding the maximum amount of assistance available to applicants under the Housing Restoration Program, various thresholds have been established to determine whether different types of assistance are cost effective. These thresholds, in addition to previously realized costs associated with buyouts and acquisitions will be utilized to determine whether one type of assistance is more cost effective. Under the Housing Restoration program guidelines, an average cost of rehabilitation and reconstruction will be established which will be used as a threshold for cost effectiveness to determine whether alternative solutions should be considered in lieu of a rehabilitation or reconstruction. Specifically, if elevation measures are required for a repair/rehabilitation applicant, the required elevation would bring the total assistance available to an amount greater than the applicable cap for the specific type of assistance necessary, then in that case, the applicant would be provided reconstruction assistance yielding a more cost effective resolution. However, the State reserves the right to continue with a rehabilitation or reconstruction if the impact of a buyout on the applicant, neighborhood or jurisdiction could be detrimental.

Flood Insurance Covenant

Federal law requires people who live in a floodplain and previously received Federal disaster funds to repair their homes as the result of a flood to carry flood insurance in perpetuity on that property. The Robert T. Stafford Disaster Relief and Emergency Assistance Act prohibits the receipt of disaster assistance because of lack of required flood insurance; accordingly, whether a property is subject to this requirement will be reviewed during the eligibility phase of the programs. If an applicant is eligible for program assistance, a covenant will be required to be placed on the property requiring that flood insurance be maintained on that property in perpetuity.

WEST VIRGINIA HOUSING RESTORATION PROGRAM (WV-HRP)

PROGRAM OBJECTIVE AND DESCRIPTION: The primary focus of the West Virginia Housing Restoration Program is to provide housing assistance to LMI households impacted by the 2016 floods. West Virginia has allocated \$64,378,950 for this program which will offer different types of assistance for impacted home owners. Assistance will be provided through multiple housing activities including, but not limited to, the repair, rehabilitation, reconstruction, and assistance with property elevation of impacted housing units. Additional objectives of the program will be to facilitate decent, safe, and sanitary housing in flood-impacted areas through these activities as well as ensuring this same housing for elderly and disabled populations. With the almost \$300 million in remaining unmet housing need attributed to 5,000 households across the state as a result of the flood it is critical for West Virginia to focus its recovery efforts on housing, particularly for vulnerable populations first. By prioritizing recovery funding this way West Virginia will return a sense of normalcy to life for those who continue to struggle with basic needs.

West Virginia will manage and complete the construction process for the rehabilitation or reconstruction of damaged homes on behalf of eligible applicants. The State will contract with a pool of contractors and assign them to repair or reconstruct damaged properties. Homeowners will not select their own contractors and will not contract with the construction contractor. Homeowners will be required to enter into grant agreements with the State setting forth the terms and conditions of the program.

ADMINISTERING ENTITY: WV-HRP will be administered by the State through the West Virginia Department of Commerce with specific phases of the administration of WV-HRP conducted in coordination with the Regional Planning and Development Councils, the West Virginia VOAD and the West Virginia Housing Development Fund.

GEOGRAPHIC AREA ELIGIBLE TO BE SERVED: Disaster declared counties: Clay, Fayette, Greenbrier, Jackson, Kanawha, Lincoln, Monroe, Nicholas, Pocahontas, Roane, Summers, Webster. Eighty percent of the CDBG-DR funds will be awarded to those properties located in the most impacted counties of Greenbrier, Kanawha, Clay and Nicholas Counties.²

ELIGIBILITY CRITERIA:

- a) The applicant household meets HUD's Low- to Moderate-Income (LMI) requirements.
- b) Owners of single-family homes, including mobile homes. *NOTE: Manufactured Housing Units (MHUs or mobile homes) are eligible for rehabilitation at the discretion of the program. However, in order to be cost effective, the MHU to be rehabilitated must be no more than 5 years old at the time of assistance and the repair costs necessary to rehabilitate the MHU must not exceed \$5,000 (hard and soft construction costs). Any MHU that is older than 5 years old or has an estimated repair cost greater than \$5,000 shall require the MHU to be replaced with a MHU. The MHU must meet HQS upon completion.*
- c) Structure was impacted by the June 2016 floods (DR-4273).
- d) Structure was the primary residence of the applicant at the time of the disaster. *NOTE: Second homes as defined by IRS Publication 936 are not eligible for assistance. Additionally, seasonal, short-term and vacation rental properties are not eligible for assistance.*

² The State submitted, and HUD approved, a waiver request to include the counties of Clay and Nicholas in the MID areas.

- e) Homes that have suffered substantial damage will also qualify for assistance to mitigate against future losses and to comply with local building and zoning codes to address future flood risk. Based on recent federal guidance (Federal Register Notice 81 FR 5989, published on November 21, 2016), the State will require that buildings elevated with CDBG-DR dollars adopt standards using the best available flood elevation data plus freeboard, a factor of safety specified in the Building Code. The State's intention is to utilize Flood Insurance Rate Maps (FIRMs) when they are issued and to require that projects funded with CDBG-DR meet FIRM elevation plus freeboard, a factor of safety specified in the Building Code.
- f) The homeowner must agree to own the home and use the home as their primary residence for a period of 3 years after rehabilitation or replacement as secured through a forgivable promissory note and lien.
- g) If located in a floodplain, the applicant must acquire flood insurance and comply with obligations to notify future owners of flood-insurance requirements.

Ineligible Activities: Forced mortgage payoffs; SBA home/business loan payoffs; funding for second homes; assistance for those who previously received Federal flood disaster assistance and did not maintain flood insurance; and compensation payments.

PROGRAM PRIORITIES: In order to address the greatest need with the limited amount of funding available, program priorities have been established. These priorities allow the WV-HRP to assist citizens with the greatest need based on level of damage and areas with the highest SoVI® score.

Eligible applications will be reviewed and processed based on the SoVI® analysis of the impacted applicant household. Specifically, each applicant household will be reviewed to determine whether it is located in a HIGH, MEDIUM, or LOW SoVI® area. This designation will be referred to as an applicant's "SoVI® score." The components which make up an applicant's SoVI® score are outlined in Table 13.

The State will prioritize applicants with a SoVI® high score for the first 60 days of the application intake period. Thus, these will be the only applications processed and assisted for this time period. Once this time period has expired, the State will prioritize applicants with both a SoVI® high and medium score for a period of 30 additional days and processed based on the order in which the application's eligibility is determined. After this 90 day period the prioritization period will be concluded. Accordingly, after the 90-day period, applicants receiving a SoVI® high, medium, or low score will be processed based on the order in which the application's eligibility is determined.

GRANT LIMIT: Single-Family Homeowner Rehabilitation: up to \$75,000 per applicant for homes with damages totaling up to or less than 50% of its pre-disaster value.

Single-Family Homeowner Reconstruction: up to \$100,000 per applicant to rebuild homes with damages totaling 50.01% or more of the homes pre-disaster value.

Mobile Home Replacement: up to \$60,000 per applicant for mobile home replacement.